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CONFERENCE
2024
WARSAW

WELCOME

#EPFConference2024

Shaping the future of passenger mobility in Europe

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CONFERENCE
2024
WARSAW

CONFERENCE MODERATOR

JOSEF
SCHNEIDER
EPF

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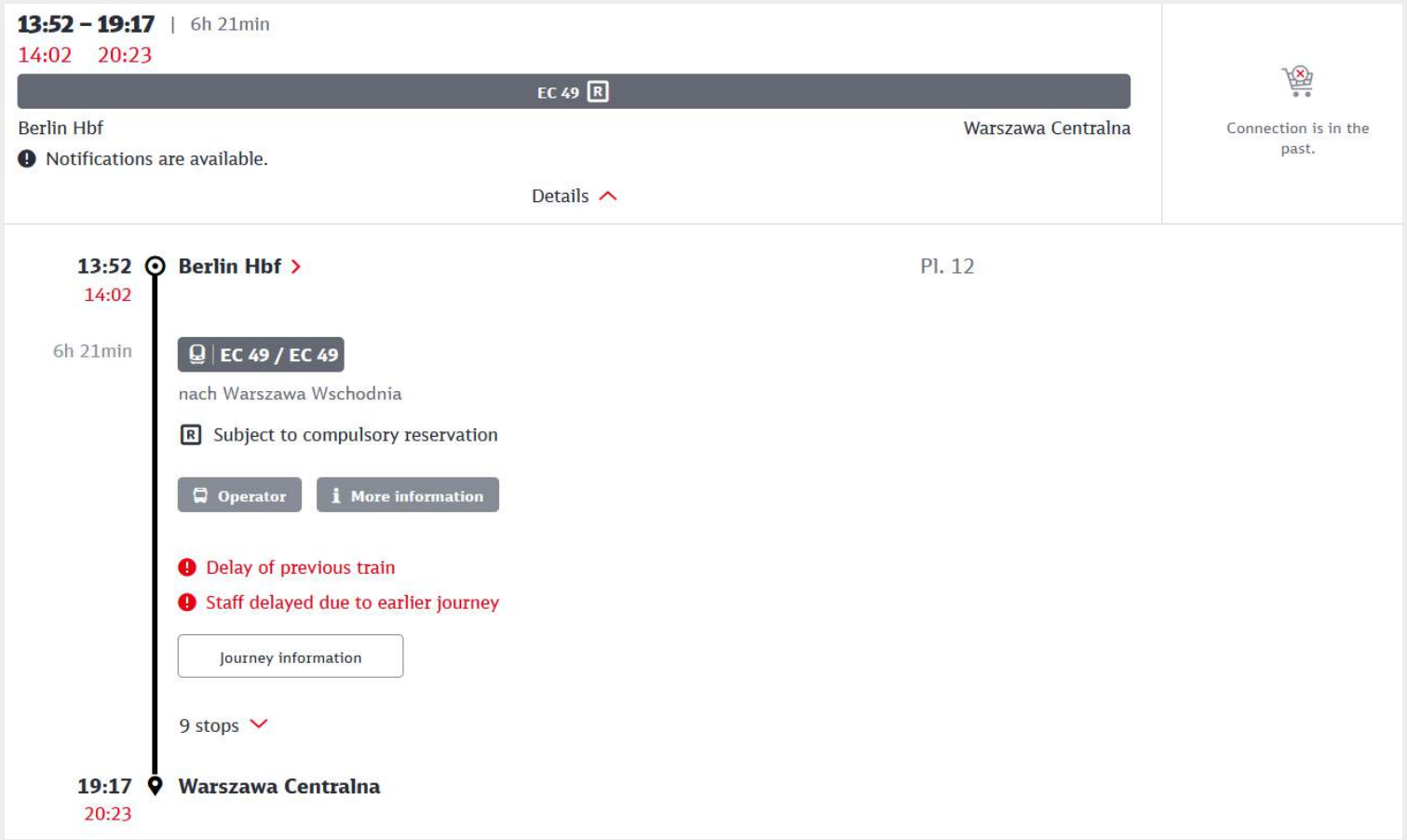
Practicalities

1. Toilets
2. Raise your hand if you would like to speak
3. Please put your phone on silent
4. Please note that we will be taking pictures
5. Have fun!

Experiences travelling to Warsaw

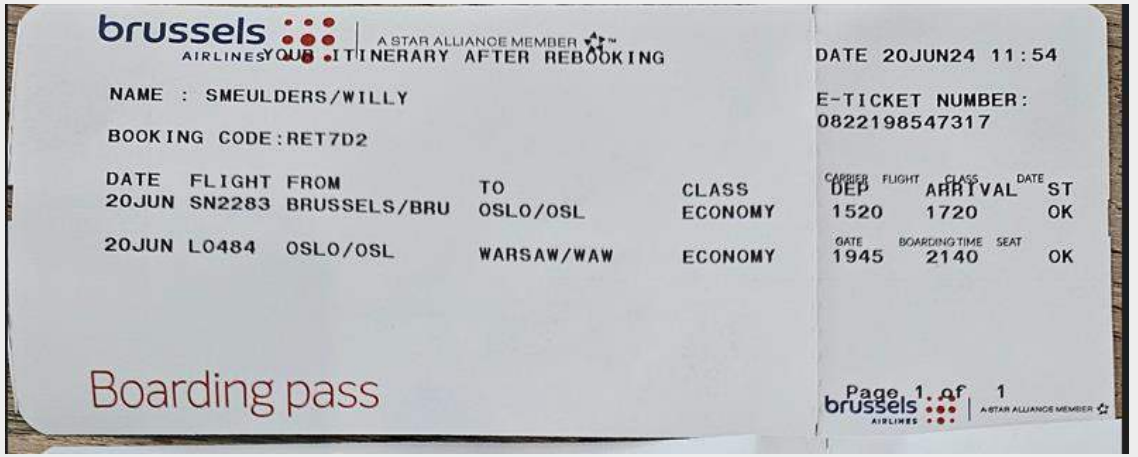


Experiences travelling to Warsaw

The day trip.started with 40 minutes standing still on the train to the airport, before Diest, two times information their is a defected train on the track, no time indicated, while passengers are worried to catch their flights.

Finally checking in at the airport, flight is cancelled, no information. After a quater flight is cancelled on my phone. Then action, you can get money back or get tomorrow to Warsaw. I told them I was organising a conference in Warsaw, so without me no conference.

Via Frankfurt not sure to get out in Frankfurt, so new proposal to arrive today, only one place left via Oslo. So, I booked immediatly.


brussels AIRLINES | A STAR ALLIANCE MEMBER

YOUR ITINERARY AFTER REBOOKING

DATE 20JUN24 11:54

NAME : SMEULDERS/WILLY

E-TICKET NUMBER: 0822198547317

BOOKING CODE:RET7D2

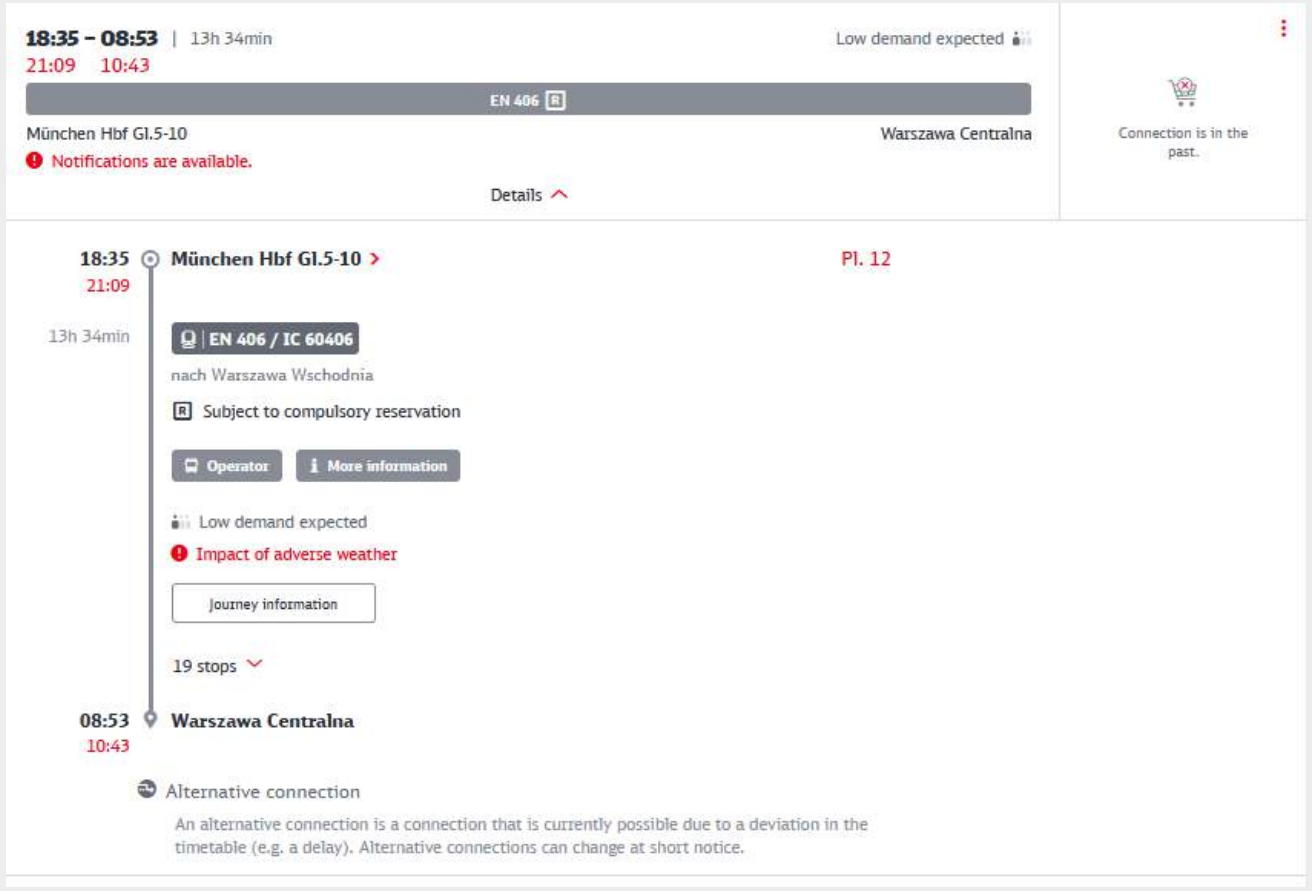
DATE	FLIGHT	FROM	TO	CLASS	CARRIER DEP	FLIGHT ARRIVAL	CLASS	DATE ST
20JUN	SN2283	BRUSSELS/BRU	OSLO/OSL	ECONOMY	1520	1720		OK
20JUN	LO484	OSLO/OSL	WARSAW/WAW	ECONOMY	GATE 1945	BOARDING TIME 2140	SEAT	OK

Boarding pass

Page 1 of 1

brussels AIRLINES | A STAR ALLIANCE MEMBER

Experiences travelling to Warsaw



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CONFERENCE
2024
WARSAW

KEYNOTE SPEAKER

09:00AM-
09:30AM

21 JUNI
2024

ELISABETH KOTTHAUS

DG MOVE,
European Commission

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CONFERENCE
2024
WARSAW

LONG DISTANCE BUS AND COACH PASSENGER RIGHTS

9:30AM-
11:00AM

21 JUNI
2024

AURÉLIEN GANDOIS
BlaBlaCar

IWONA BUDYCH
Transport Exclusion Association

ELISABETH KOTTHAUS
European Commission

DR. MALTE WIENKER
Flixbus

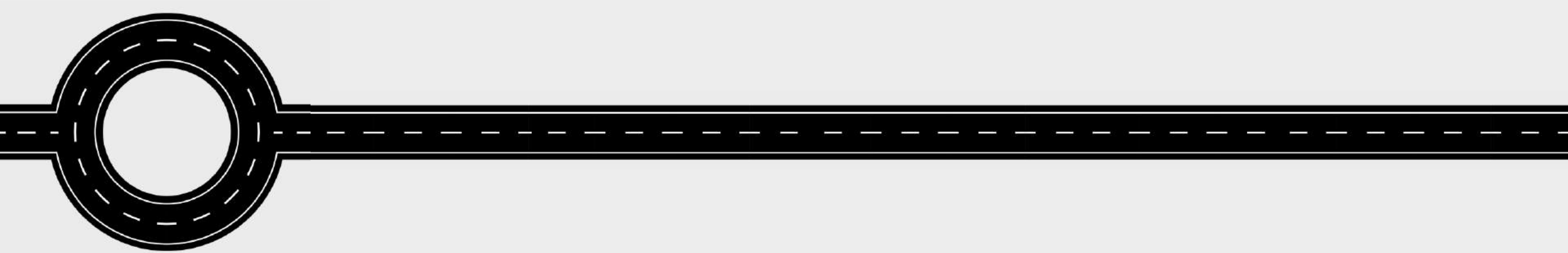
PROF. STEFAN AKIRA
Warsaw University of Technology

epfconference.eu

LONG DISTANCE COACH AND PASSENGER RIGHTS

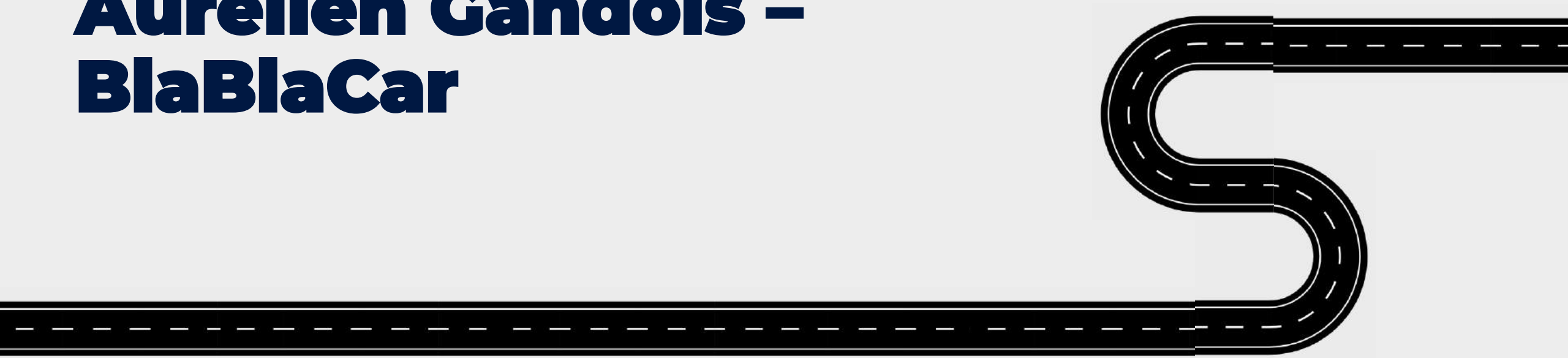
Moderator:
Prof. Stefan Akira Jarecki
Warsaw University of Technology

Where do you work?
What is your role?
What is your standpoint?
What is your hobby?



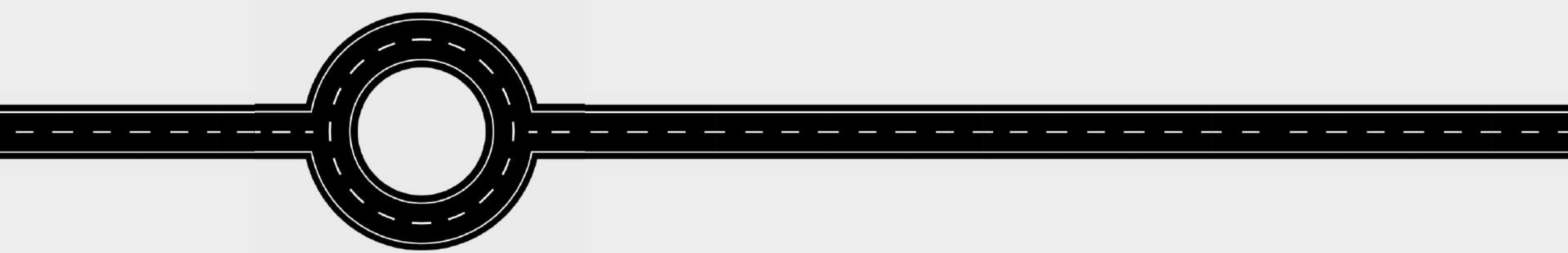
designed by freepik.com

Aurélien Gandois – BlaBlaCar



designed by freepik.com

Elisabeth Kotthaus – European Commission, DG MOVE

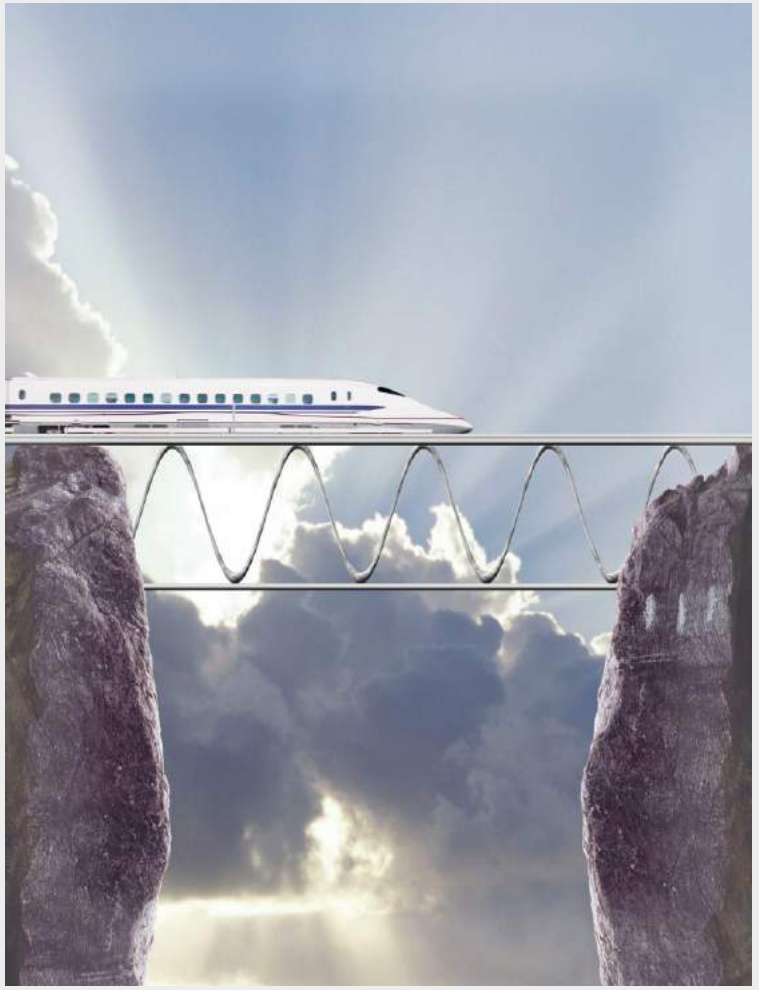


Iwona Budych – Transport Exclusion Association

Dr. Malte Wienker – Flixbus

Discussion...

Thank You!



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CONFERENCE
2024
WARSAW

11:00
11:30AM

COFFEE BREAK

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CONFERENCE
2024
WARSAW

COMPETITION, GOOD FOR PASSENGERS?

11:30AM-
13:00PM

21 JUNI
2024

SOPHIE BUYSE
Deutsche Bahn

PROF. STEFAN AKIRA
Warsaw University of Technology

NICK BROOKS
ALLRAIL

CHRISTOPHE PHILIPPE
UITP

JOSEF SCHNEIDER
EPF (moderator)

epfconference.eu

Competition good for passengers?

The importance of an intermodal shift and how it could be achieved

21 June 2024 | Warsaw

On the road to the mobility transition: DB Long-Distance enables and accelerates the shift to climate-friendly rail

Business model

DB Long-Distance's business is based on its **self-sustaining** and **daily scheduled** services with **ICE, Intercity and Eurocity** trains in Germany and Europe.

Sustainability

Rail travel is **active climate protection**. Using **100 %green electricity**, energy-efficient new trains and already **one climate-neutral ICE depot**, DB Long-Distance is protecting the environment and climate.

Mobility transition

We are increasing the volume sold to **shift traffic** to **climate-friendly rail** focusing on a **modern fleet, more digitalization** and an **attractive offering**.

Punctuality
68.9 %|64.0 %
(Passenger | Operational)

Volume sold
45,5 bn. pkm
(140 m. passengers)

Customer satisfaction
2.7
(Grade)

Employees
20.966
(Full-time employees)

Fleet
401 |152
(ICE | Intercity)

Revenues
€ 5,9 bn.
(EBIT: € -42 m.)

Sources: Integrated Annual Report 2023, Facts & Figures 2023

A clear goal.

Doubling of transport volume.

True to our core identity at DB Long-Distance:
Connecting people. Overcoming distances.

Our large long-distance network connects people and cities in Germany and Europe

Fast and direct connections for comfortable travel

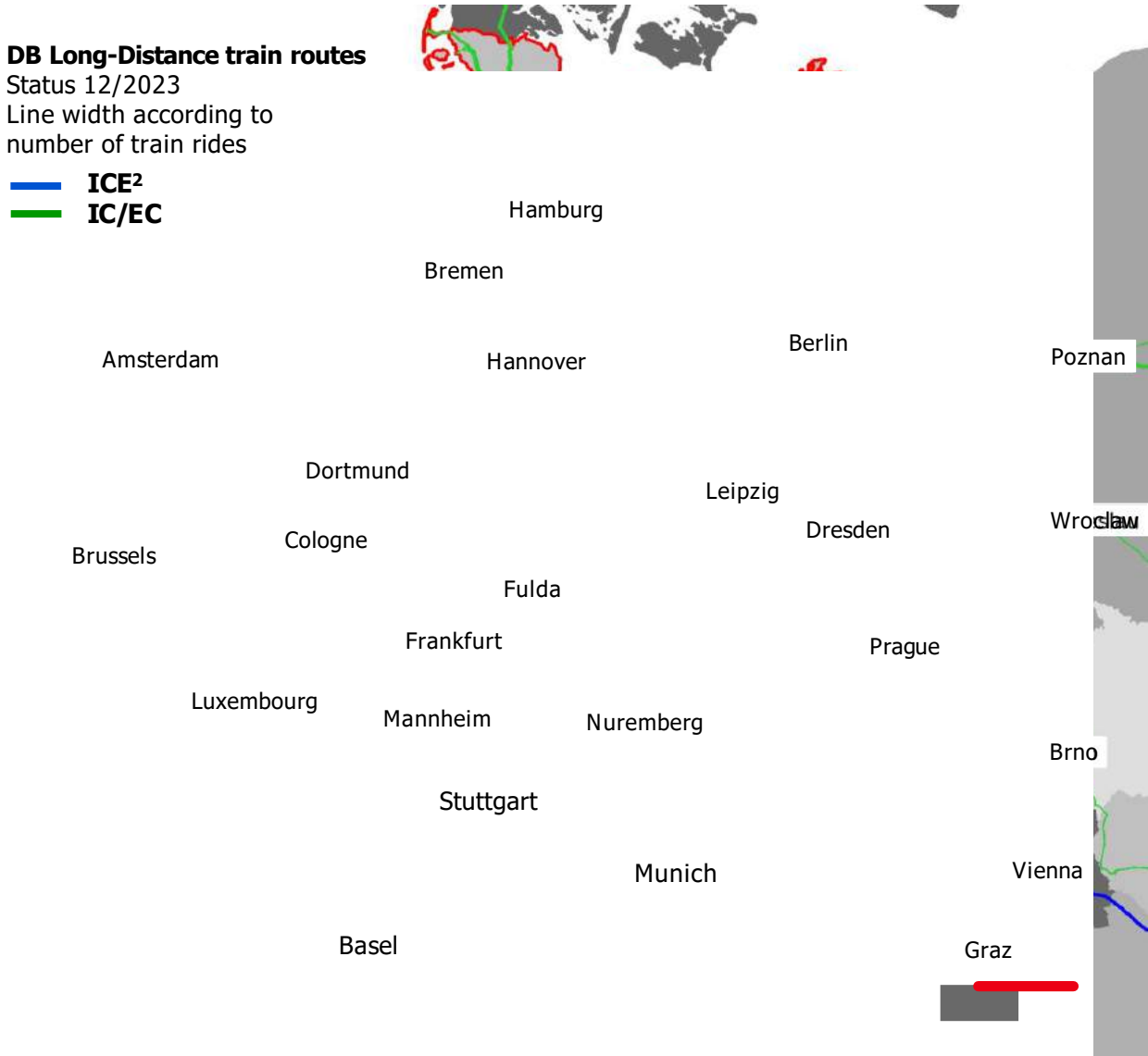
ICE lines mainly between German metropolitan areas and via high-speed lines.

Intercity-/Eurocity network to further connect large and medium-sized cities and to strengthen important axes.

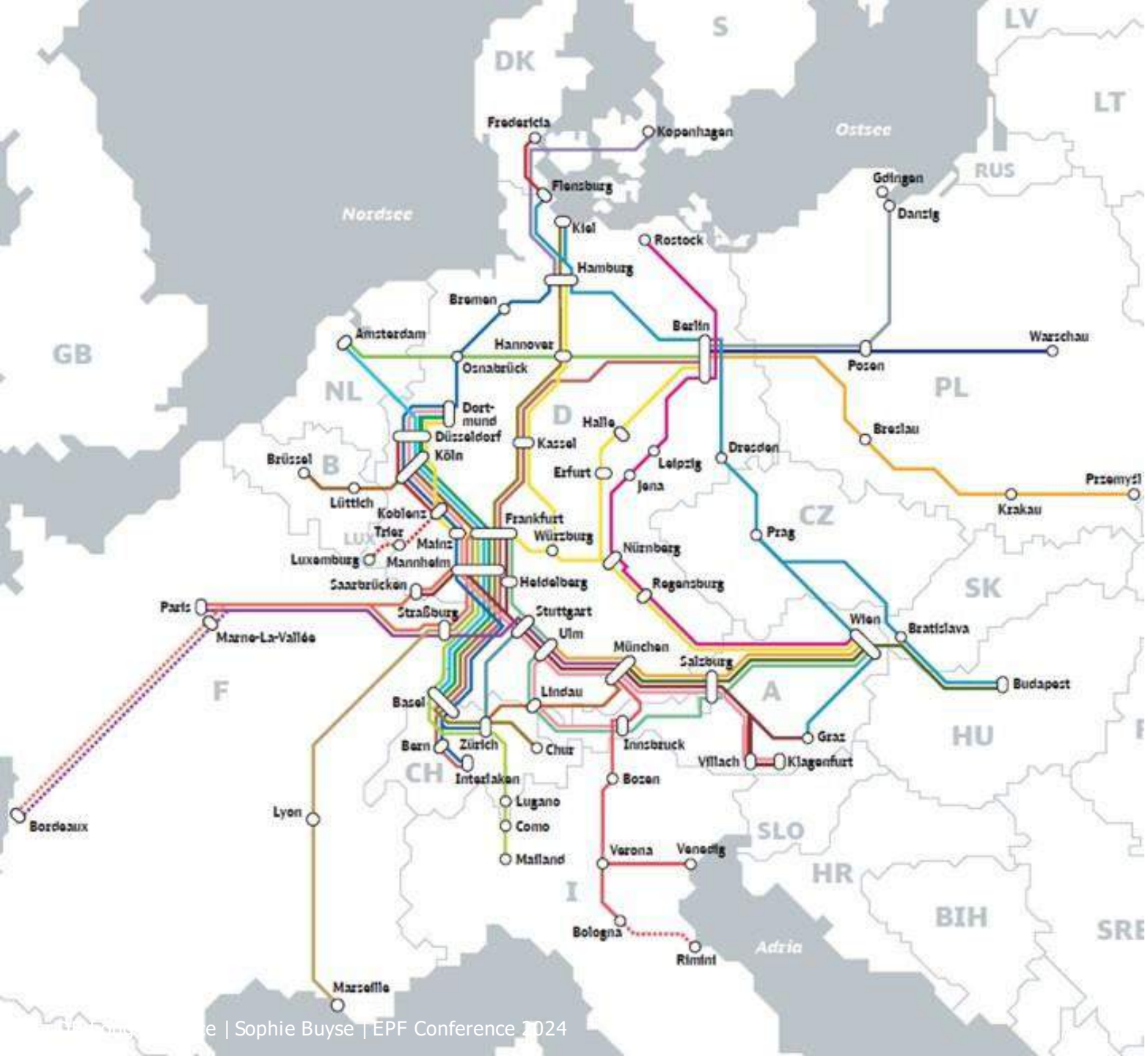
Cross-border services to link Germany with 14 European countries[1] in cooperation with foreign cooperation railways.

Night train connections in cooperation with other railway undertakings.

For Germany in sync the range of attractive and fast connections on DB´s environmentally friendly long-distance services is being further expanded.



(1) BEL, DNK, FRA, ITA, HRV, LUX, NLD, AUT, POL, CHE, SVK, SVN, CZE, HUN
(2) Also includes TGVs & Railjets operated in cooperation



Facts about our European network

Over **300 international long-distance connections** per day

More than **200 destinations** abroad with **more than 65.000 travellers every day**

Direct connections without transfer to **14 European countries**

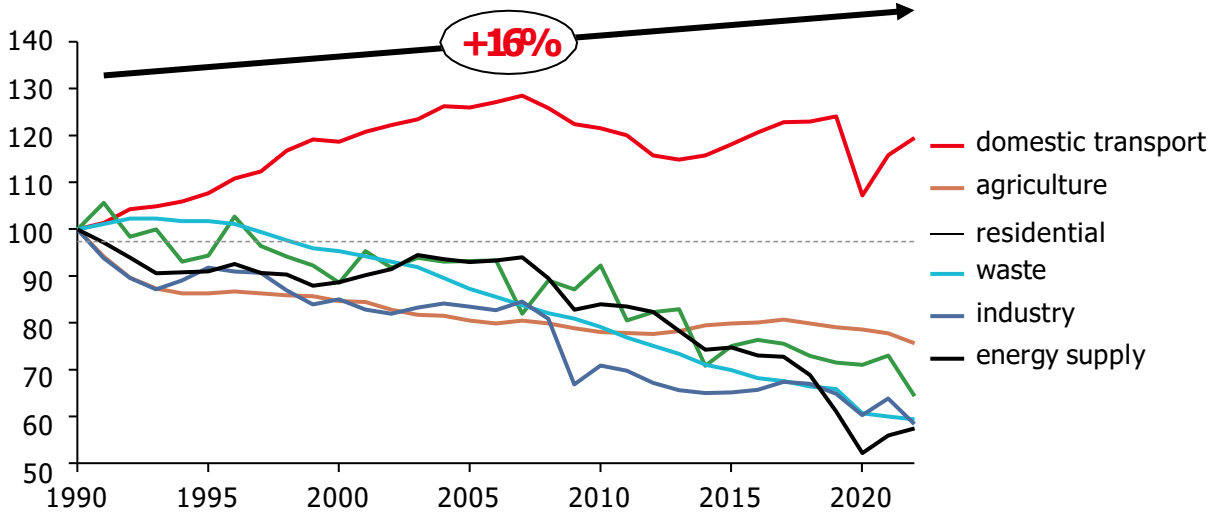
All international connections are operated **in cooperation with other RUs**, with the exception of Belgium

Increase in emissions since 1990 exclusively in the transport sector

Cars maintain dominance in traffic performance

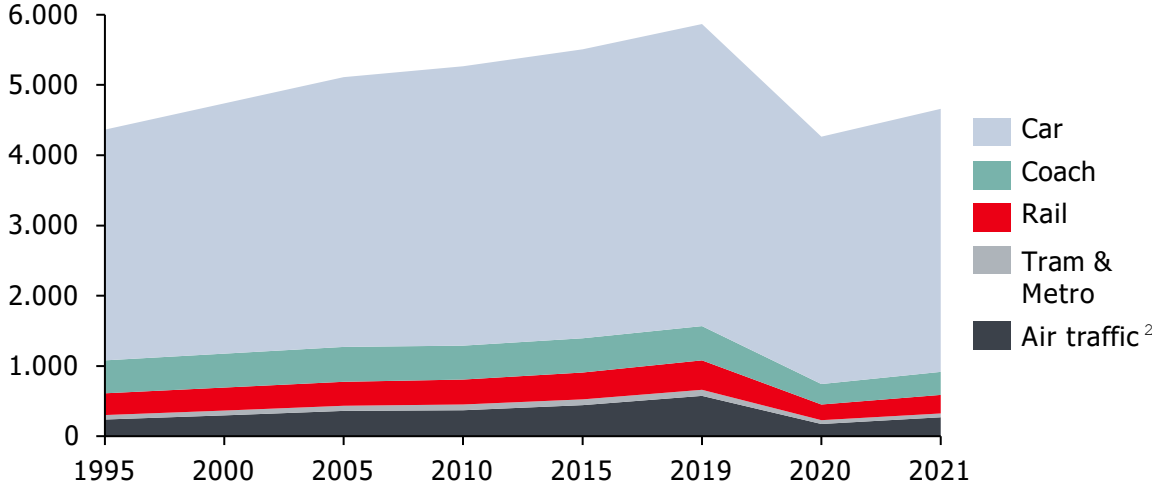
To meet European emission targets, transport sector emissions must be reduced

Emission trends of the EU-27 countries by sector comparison
[Change in CO_2-equivalent per kg in %]



- **Emissions from the transport sector** have **increased since 1990** by **16%,** while **all other sectors** have been able to **reduce** emissions **by 25-40%** compared to the base year 1990.
- The **peak of traffic emissions** was reached in **2007** with **+28% compared to 1990**

Temporal development of the modal split in the EU-27 countries[1]
[Billion passenger-kilometres, including air transport]

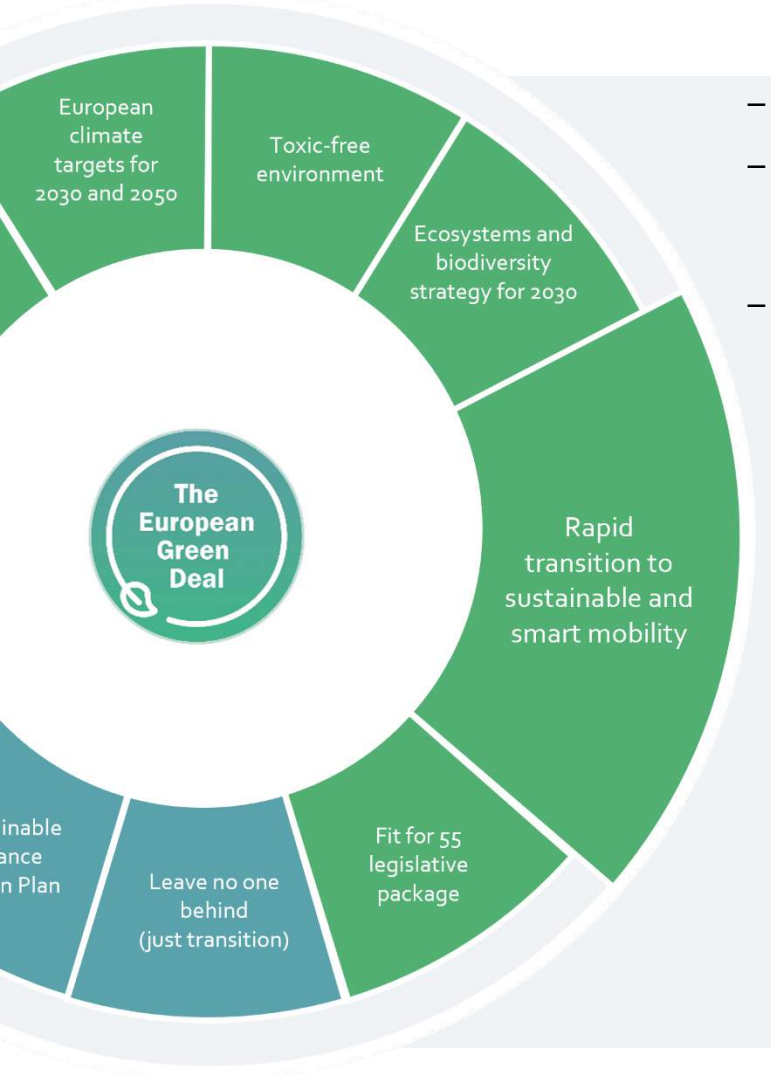


- **Since 1995, cars** have significantly **dominated** the **modal split of the EU-27, accounting for most passenger-kilometres**
- After the **sharp decline in traffic volume in 2020** (2021: **-20,5%** compared to 2019) due to the **COVID-19 pandemic with temporary restrictions on mobility, passenger cars experienced the smallest decline** (2020: -13% compared to 2019) due to better compliance with distance and hygiene regulations
- **Air traffic** recorded the **sharpest decline in traffic volume** (2021: -53% compared to 2019)

(1) Modal split excluding maritime transport (2) Domestic and intra-EU-27 air traffic only
Source: Verkehr in Zahlen (2023/24), Statistical Pocketbook (2023), European Environment Agency

EU backs rail expansion for green growth in Europe

Green Deal sets framework for rail-friendly European transport policy

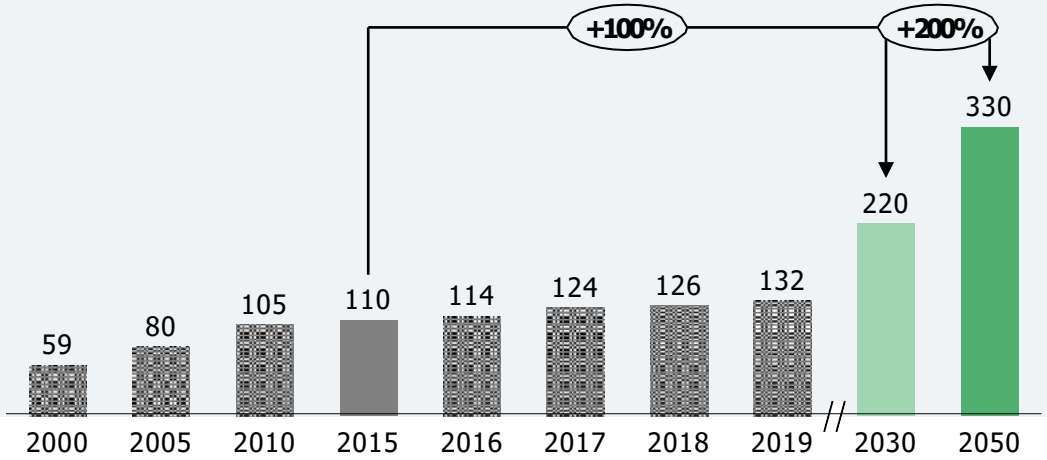


- Green Deal growth strategy: create the transition to a modern, resource-efficient and competitive economy
- The framework for the implementation of the Green Deal in the mobility sector is the Sustainable and Smart Mobility Strategy. In addition to medium and long-term goals, this includes an action plan with 82 concrete initiatives, most of which are directly or indirectly relevant for rail
- The guiding principle behind numerous measures is to strengthen the environmentally friendly transport mode of rail. Transport-related emissions are to be reduced by 90% by 2050, not least by

doubling European high-speed rail traffic by 2030 and tripling it by 2050

doubling rail freight transport by 2050 and expanding intermodal terminals

completing the nationwide rollout of ETCS



HSR transport volume in Europe
[in billion pkm per year]

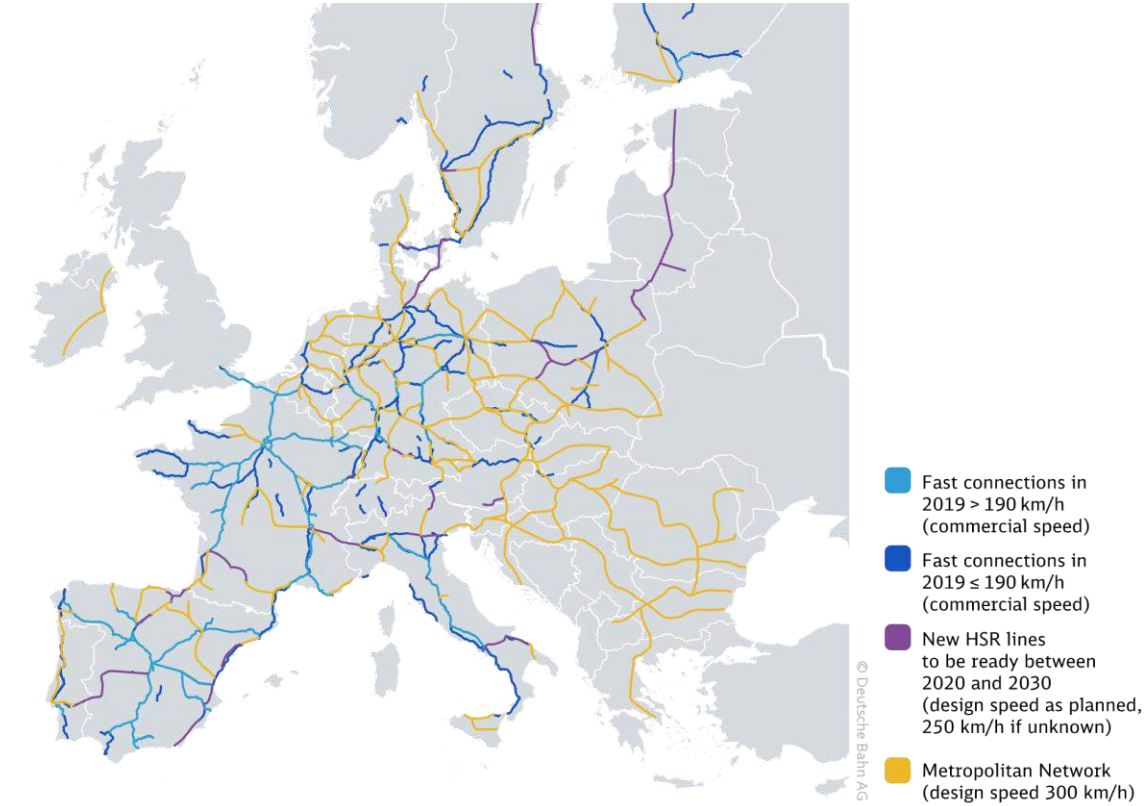
HSR
Derived EU target

Source: European Commission, Directorate-General for Mobility and Transport, EU Transport in figures: Statistical Pocketbook 2022, Publications Office, 2022

Metropolitan Network

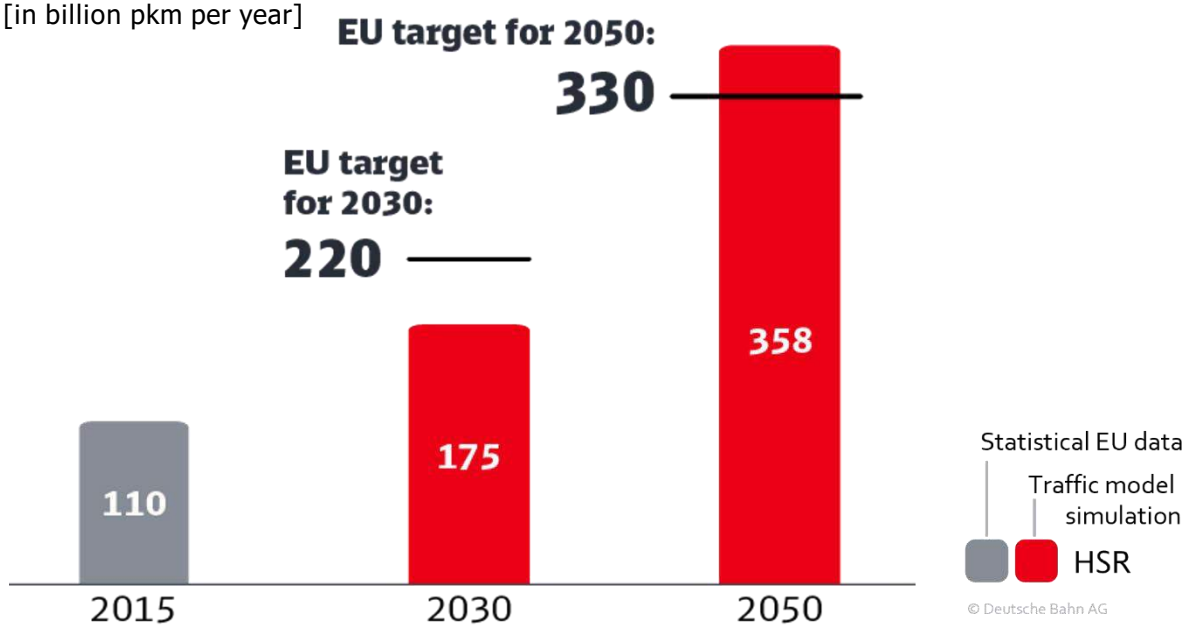
A new HSR network to connect Europe's metropolitan regions – fast and frequently

Vision 2050: European Metropolitan Network



- There is **no connected European high-speed rail network** based on the infrastructure projects that are currently under construction or planned until 2030 (including the TEN-T high-speed rail infrastructure)
- **Cross-border high-speed rail is only available to a limited extent**

HSR passenger kilometres –target and simulation of the Metropolitan Network 2050
[in billion pkm per year]



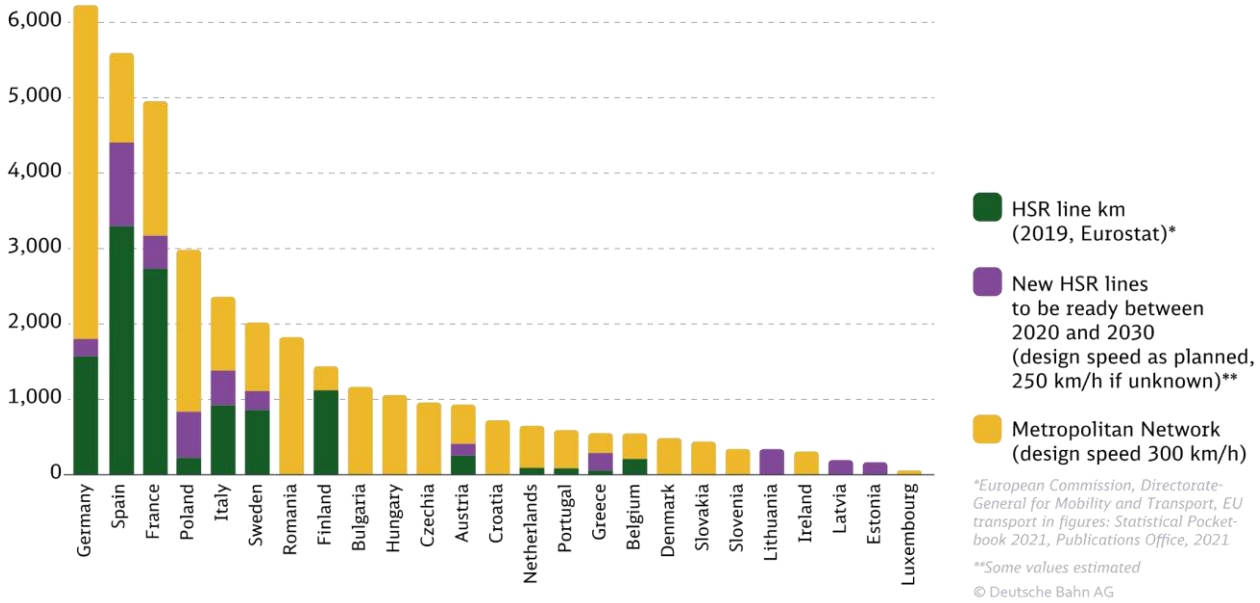
Target for 2050

- **60%** of **EU citizens connected** by HSR network
- **Linking all European metropolitan regions frequently** with HSR
- Construction of new lines and expansion of existing lines to cover around **21,000 additional kilometres**

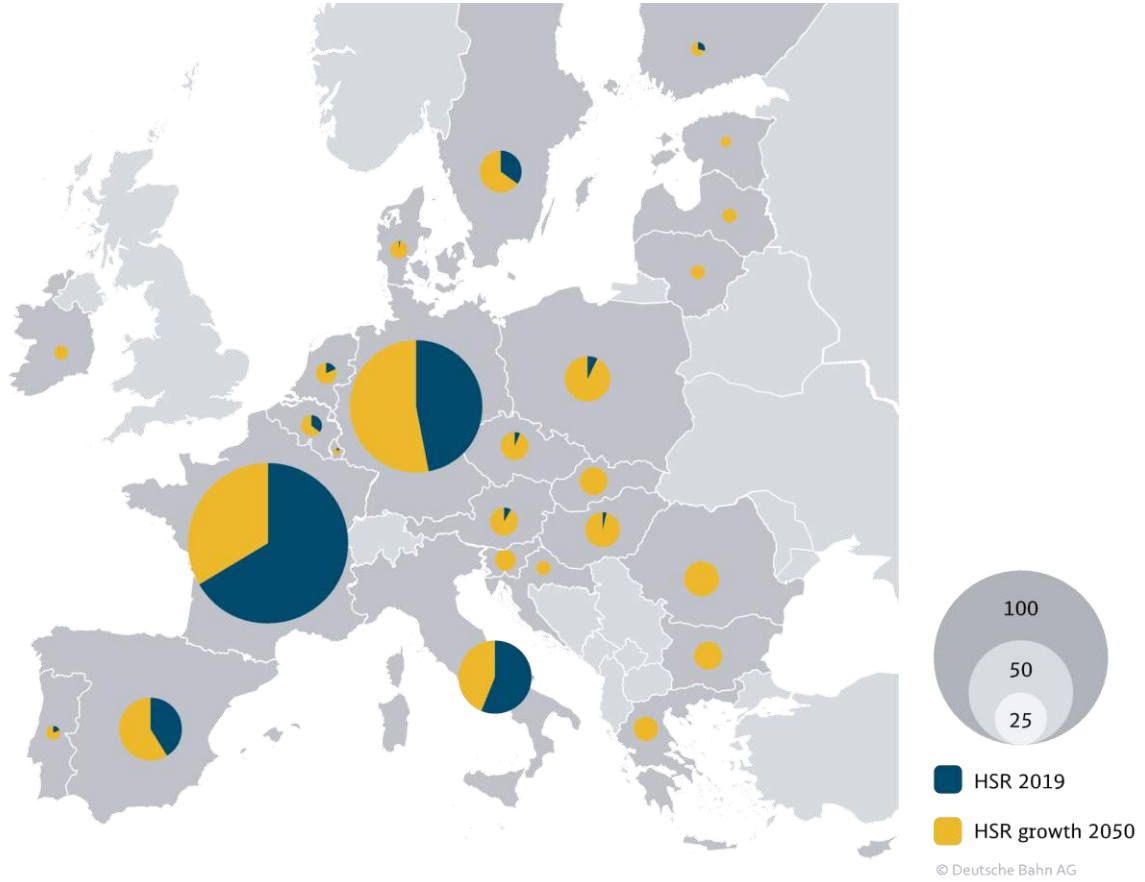
A major Europe-wide expansion could achieve the necessary growth

Significant expansion potential especially in the eastern countries of Europe

Current and necessary development of HSR infrastructure
[in km, per country]



HSR growth in the Metropolitan Network
[in billion pkm, per country, 2019 vs. 2050]

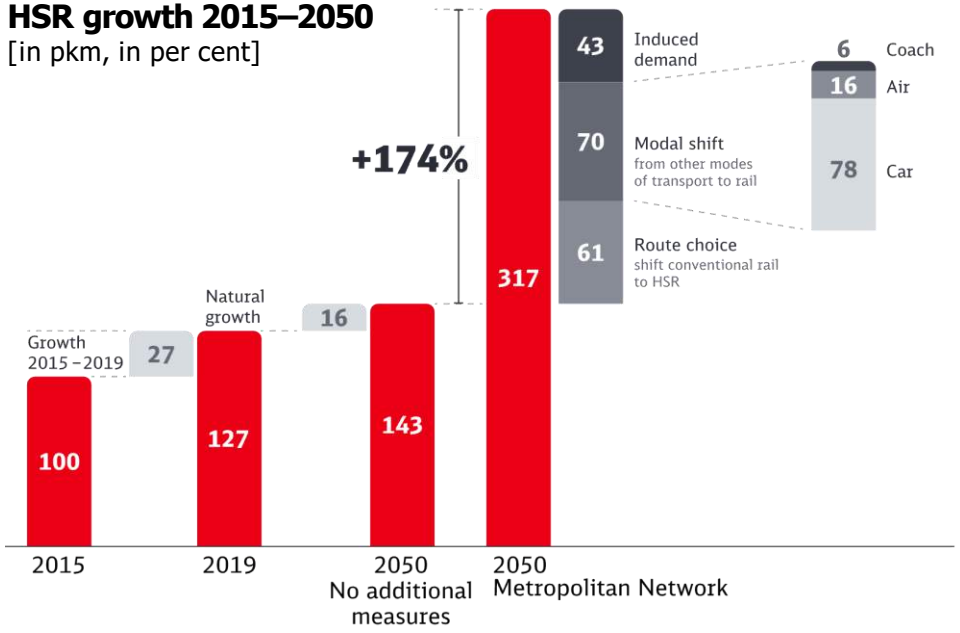


- Infrastructure of the yellow **Metropolitan Network has a length of ~21,000 km**
- Along with the new lines expected to be in service by 2030, the entire network would **more than triple the length of the 2019** EU27 HSR infrastructure (according to Eurostat: 11,336 km)
- **Germany, Poland, Romania, France and Spain** have the **highest absolute growth** in terms of HSR network length
- **Germany has the highest absolute expansion potential** due to a relatively high number of metropolitan regions to be connected due to the country's settlement structure

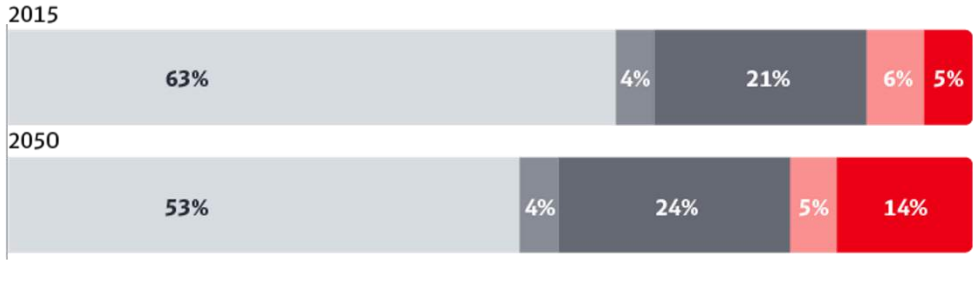
Frequency and travel time reduction induce growth of HSR

Market share of rail could significantly increase by 2050

HSR growth 2015–2050
[in pkm, in per cent]



Market share of different modes of transport 2015 and 2050
[long-distance ≥ 100 km, in per cent]



Results

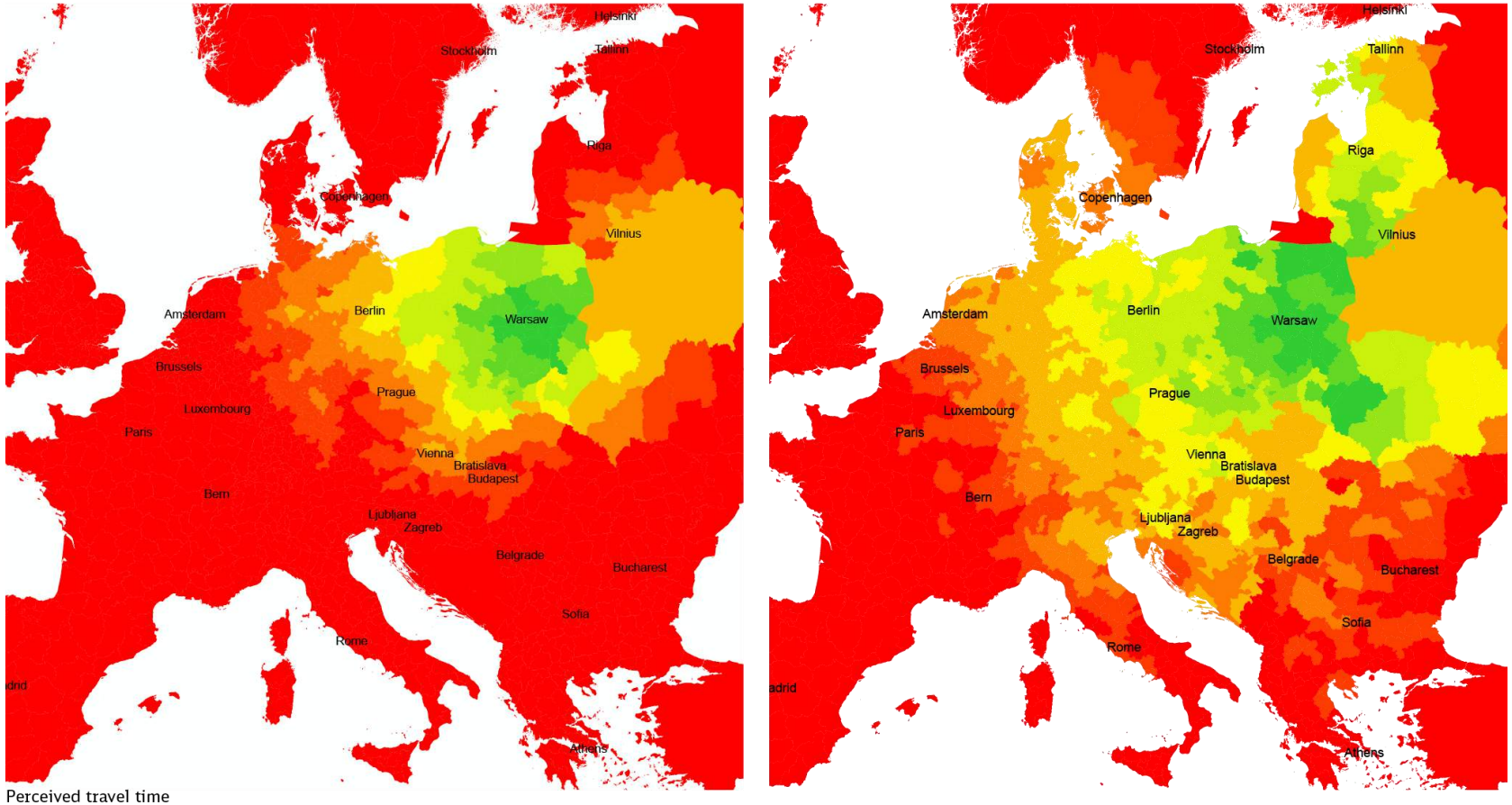
- Significant expansion of HSR infrastructure has major impact on travel demand due to **travel time reduction**
- Largest share of PKM shifted to **rail replaces car trips**
- **Air travel** shows dynamic growth until 2030. From 2030 to 2050, air travel´s natural **growth** is **slowed** down by competitive HSR
- **Market share** of **HSR** increases from **5% to 14% by 2050**. Share of conventional rail transport remains stable
- **Total rail transport reaches just under 20%** market share by 2050

Europe grows together

Metropolitan Network connects significantly more people

Perceived travel time of Warsaw

2019 **2050**



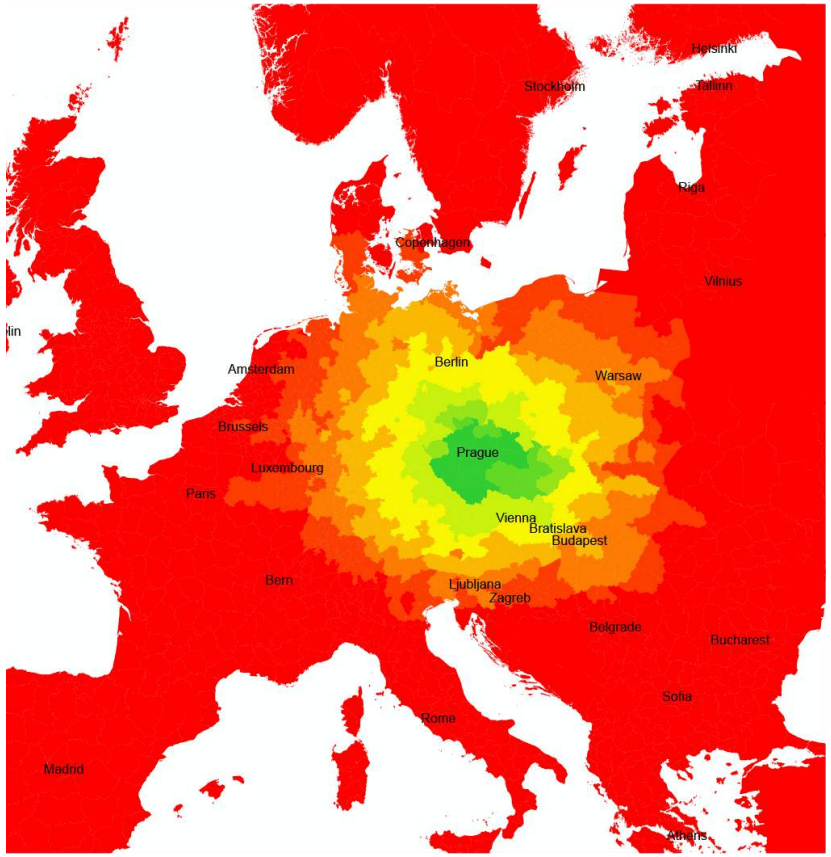
Includes access time per NUTS-3 zone, waiting time at start, and travel and interchange times (with higher values for new HSR hubs).

Europe grows together

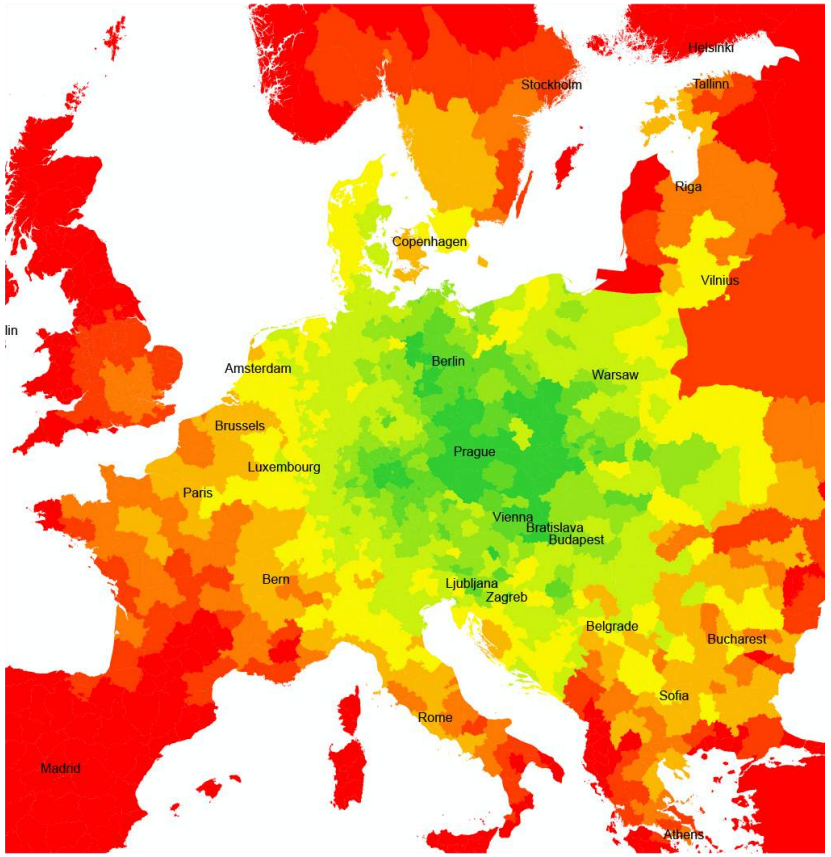
Metropolitan Network connects significantly more people

Perceived travel time of Prague

2019



2050



Perceived travel time

low... medium... high travel time

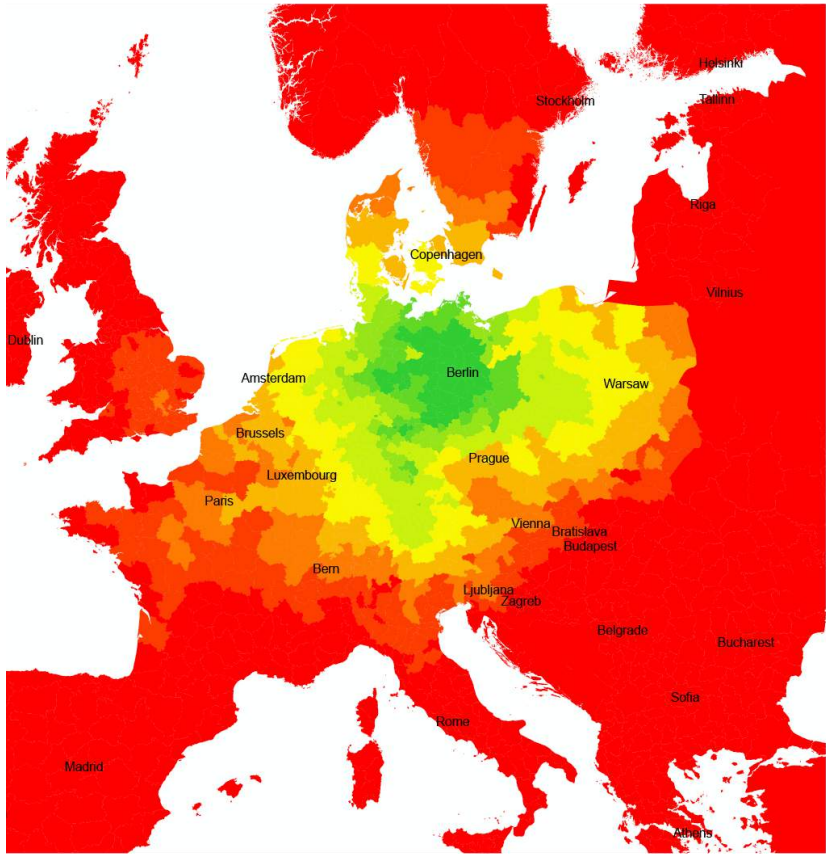
Includes access time per NUTS-3 zone, waiting time at start, and travel and interchange times (with higher values for new HSR hubs).

Europe grows together

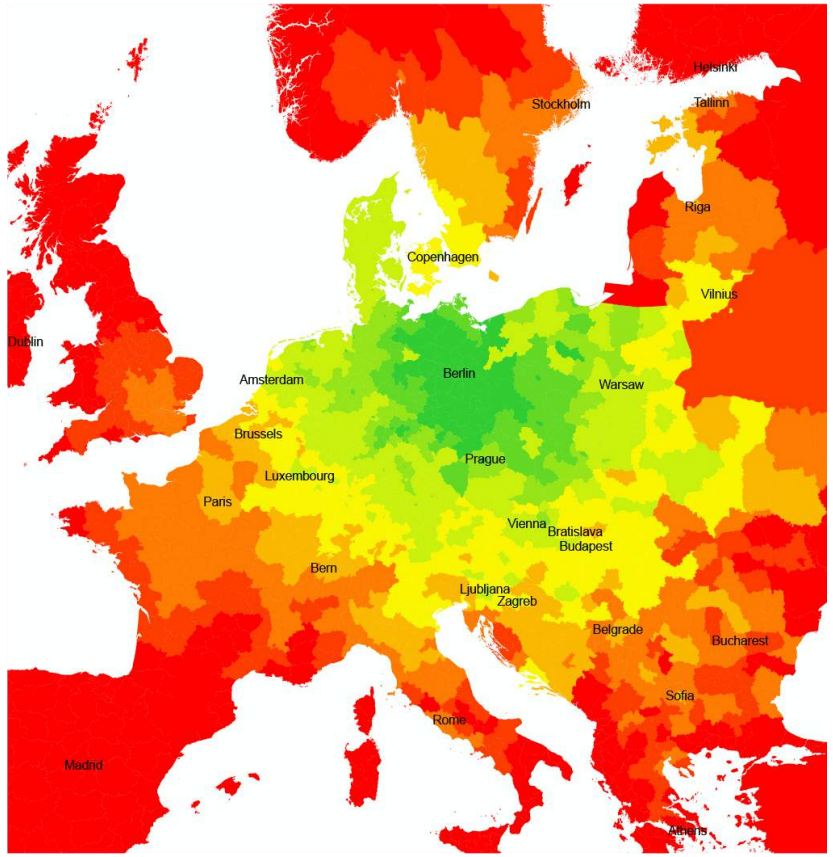
Metropolitan Network connects significantly more people

Perceived travel time of Berlin

2019



2050



Perceived travel time

low... medium... high travel time

Includes access time per NUTS-3 zone, waiting time at start, and travel and interchange times (with higher values for new HSR hubs).

The way forward

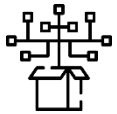
Joint European effort and a level-playing field is necessary to achieve the EU targets

Connect all metropolitan regions with HSR and bring Europeans closer together

If **all of Europe's metropolitan regions** were **linked by a HSR network**, the volume of **high-speed rail traffic** could be **tripled by 2050** would allow every European citizen to experience the **free movement of people, goods, and services.**

Implement a Europe-wide effort

Considerable action and **financial investments in infrastructure needs to be taken in nearly all European countries**, which will probably **exceed the scope of the current funding mechanisms**.



Go further than the TEN-T network

To complete a Europe-wide network, a **significant extension of current infrastructure should be discussed** and added to the program.

Create capacities for both conventional rail and freight

Using this **new infrastructure** efficiently would maximise **the capacity gain**. This would **enhance connectivity and reduce congestion**.

Create a level-playing field in the transport sector to save mobility and the climate

European rail market needs a **level-playing field between the transport modes to make environmentally friendly rail more attractive**
(e.g. 100% of railroads and only around 3% of railroads are tolled; airlines do not pay kerosene tax and on international connections they do not pay VAT, while passengers on rail have to pay this)


DB

Competition, good for passengers?

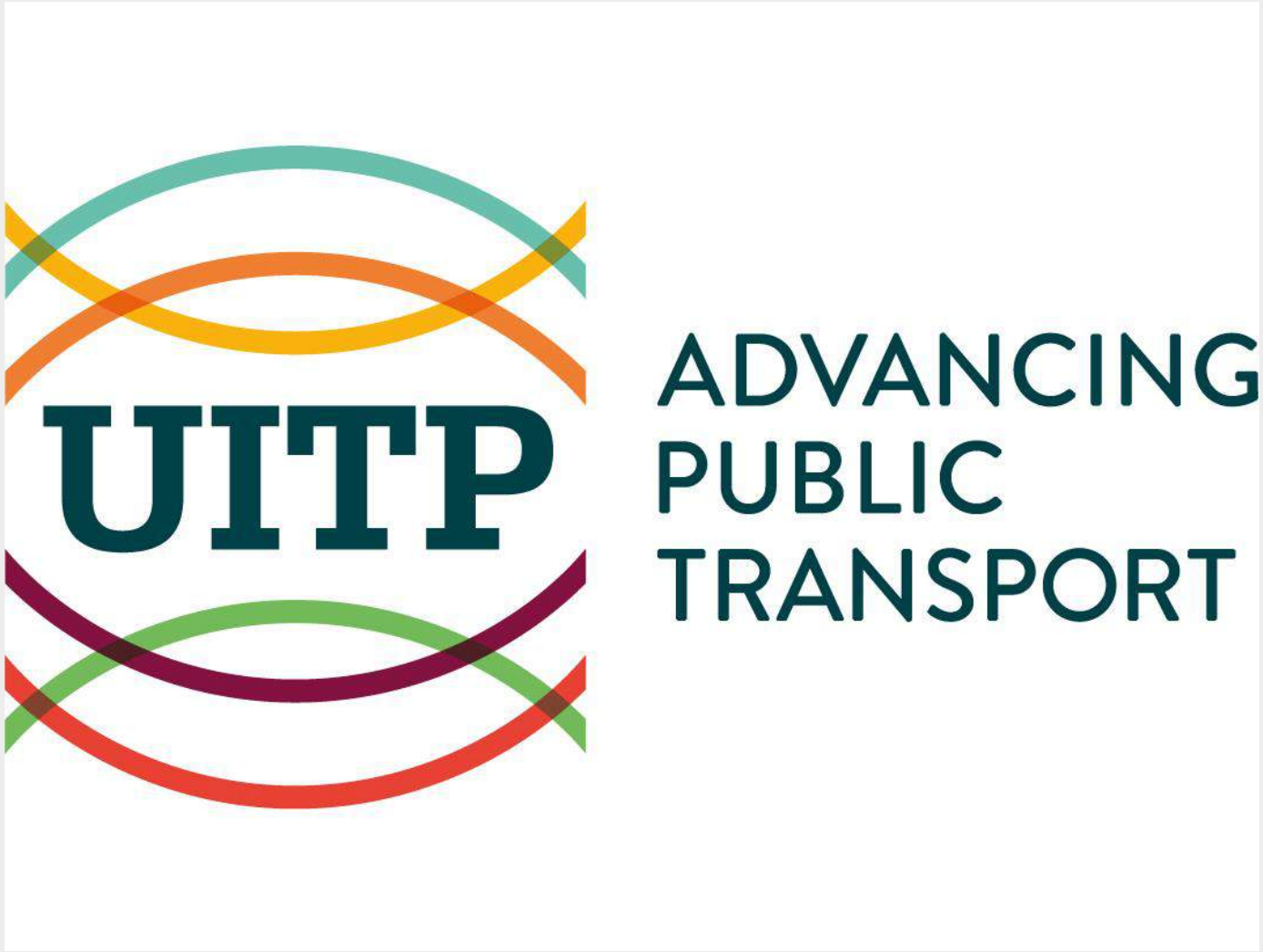
EPF Conference June 2024 – UITP's presentation

Christophe Philippe

UITP

OUR VISION

We are working to
enhance quality of life and
economic well-being
by supporting and promoting
sustainable transport in **urban** areas
worldwide

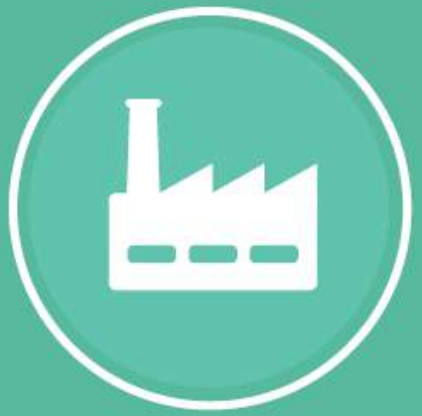


WHO ARE OUR MEMBERS?

AUTHORITIES

OPERATORS

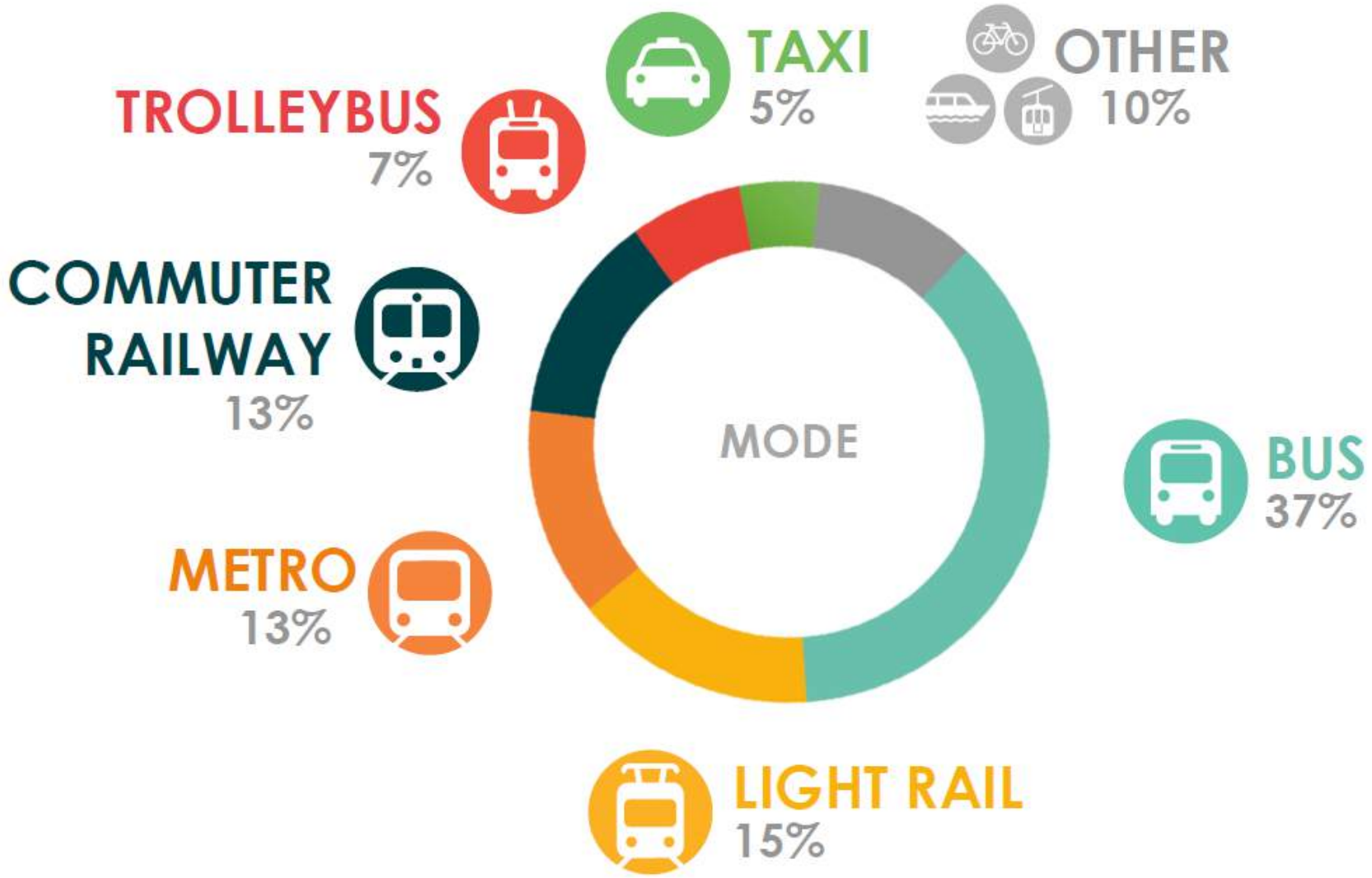
INDUSTRIES



RESEARCH INSTITUTES & ACADEMIA

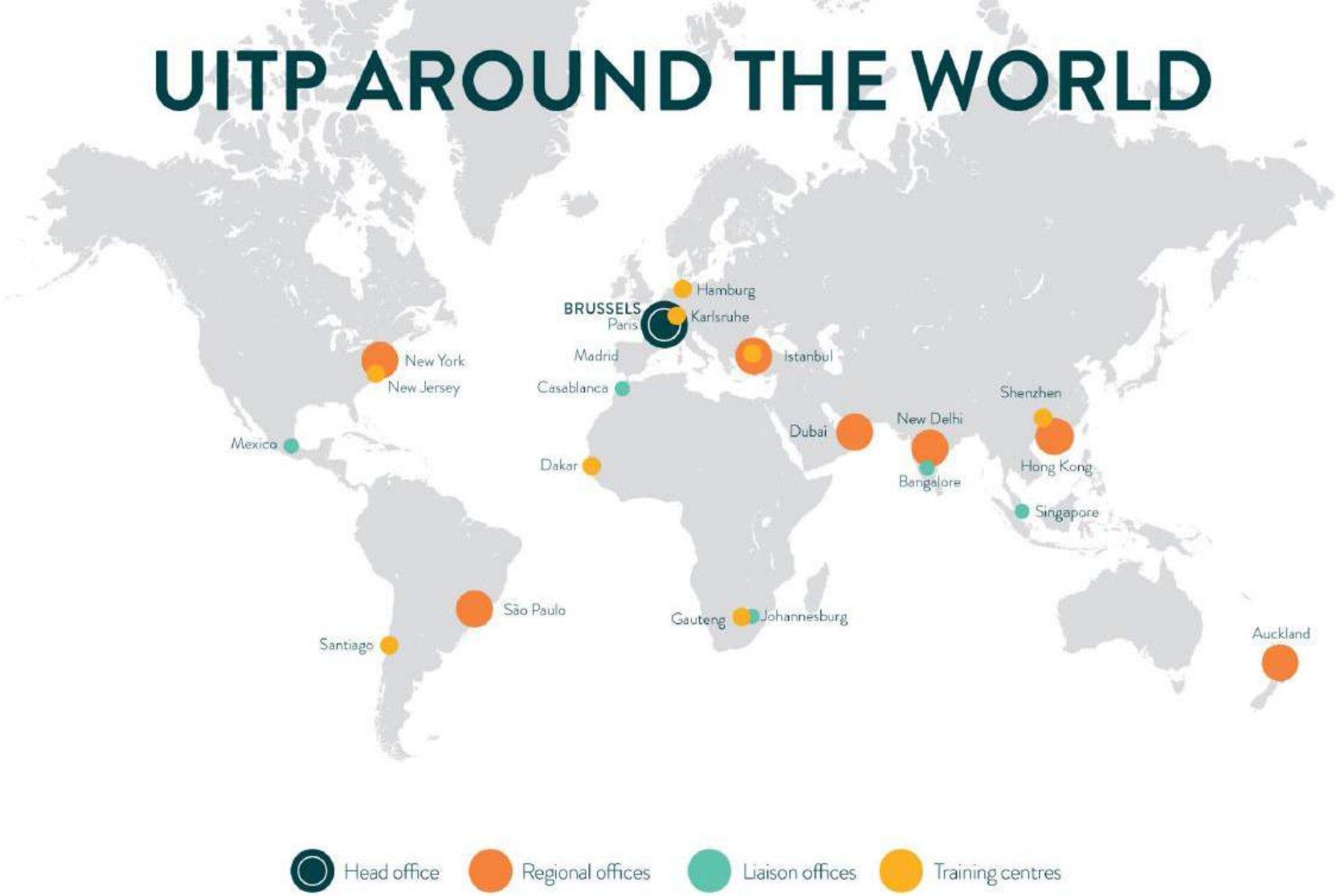
ASSOCIATIONS

WHO ARE OUR MEMBERS?



WHERE ARE OUR MEMBERS?

UITP AROUND THE WORLD



BALANCED APPROACH

- Competitive award for public service contracts as the norm
- Possibility of direct awarding in certain cases

CONTRACTING IS ESSENTIAL

- Enhancing potential benefits that competition can bring, such as innovation, efficiency, improved services for passengers

- Ensuring that competition does not compromise the overarching goals of public transport, such as the intermodal integration inherently linked with the network effect, accessibility, affordability, and sustainability

ROLE OF PUBLIC TRANSPORT AUTHORITIES

- Promoting network effect with coherent network routes, coordinated timetables, tariffication, ticketing, information

- Aiming at enhancing users' experience with more convenient, seamless and connected travel

CURRENT LEGAL FRAMEWORK

- Regulation (EC) No 1370/2007 on public passenger transport services by rail and by road

- Wide discretion for PTA to define Public Service Obligations while respecting the proportionality principle

CURRENT LEGAL FRAMEWORK

- Well drafted contract aiming at the best quality for passengers while promoting public policies

- Competition in the award of these contracts, with some possibility of direct award to best meet local or regional needs

LEGAL SECURITY & CERTAINTY

- Stabilized regulatory framework

- Vital for the local public transport sector in order to guarantee the necessary long-term investments

UITP ADVANCING PUBLIC TRANSPORT

Christophe PHILIPPE

European and Legal Expert - Seconded by OTW

linkedin.com/company/uitp

uitp.org

@uitpofficial

Competition good for passangers?

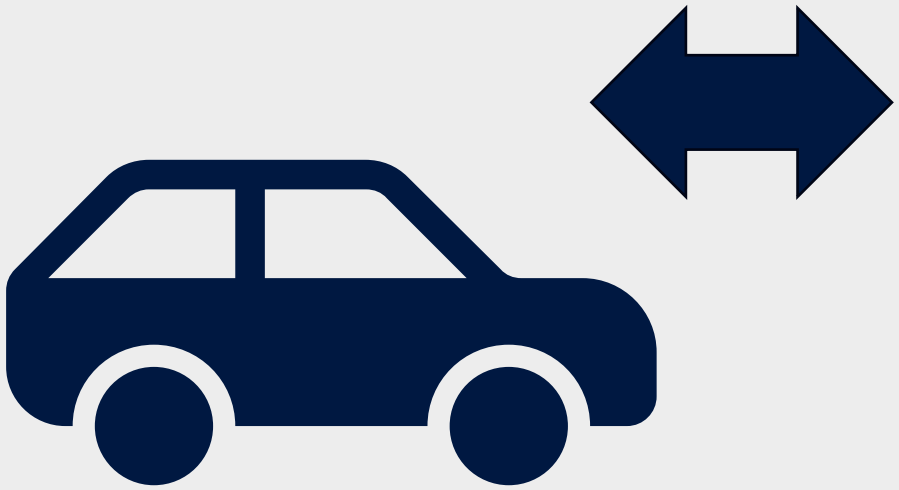
dr hab. Stefan Akira Jarecki, prof. PW
Warsaw University of Technology

 |

Competition	It is the rivalry between entrepreneurs for customers, profits, sales markets...
Competitiveness	The quality of being as good as or better than others of a comparable nature – “the competitiveness of the rail transport sector”

Competition - two dimensions...

Competition with other modes of transport – especially road transport



Competition between railway operators – intra-sectoral competition

- Competition in the market
- Competition for the market

Thank you for attention!

dr hab. Stefan Akira Jarecki, prof. PW
Warsaw University of Technology

Competition, good for passengers?

Nick Brooks
ALLRAIL

Who is ALLRAIL?

Alliance of Rail New Entrants (ALLRAIL) is the European non-profit association of independent passenger rail companies–THE lobby group for newcomers in the sector

ALLRAIL was established in May 2017, based in Brussels, Belgium.

Since 2019, ALLRAIL has had the status of an official representative body for the EU rail sector.

Our members share the belief that **faster market opening** is the only way to help Europe achieve its ambitious climate change targets as set down in the EU Green Deal. Here are some of them:

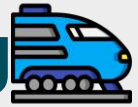
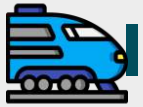
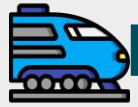
Competition and its benefits for passengers

- **Passenger-centric services -> improved service quality**
- Reduced fares
- Easier booking
- Higher demand -> modal shift -> reduced CO2 emissions
- Greater efficiency & innovation
- More private investment and - with this - less burden on the taxpayer





Competition and its benefits for passengers

Easier booking  more trains  lower prices  better quality

- MTR Nordic started operating Stockholm-Gothenburg in 2015
- MTR Nordic focused on premium & innovative service to passengers:
  - Premium quality RS (Stadler FLIRT)
  - Ordering meals before boarding
  - Eight-person premium business compartment
  - Etc.
- MTR Nordic (brand MTRX) in the top 3 most innovative companies in Sweden in 2020 (Swedish Innovation Index 2020)

Comparison of fares on the Stockholm-Gothenburg route (June 2024)

Carrier	Lowest price for an afternoon ticket on the same day	Lowest price for an afternoon ticket one month in advance
FlixTrain	€34.97	€22.97
MTR Nordic (MTRX)	€39.11	€23.06
SJ *(incumbent)*	€92.20	€37.86

Source: own compilation via flixtrain.com, mtrx.travel and sj.se

Competition and its benefits for passengers

- Since Italo-NTV started competing with Trenitalia in 2012:
  - ➢ total demand shot up by 90%
  - ➢ more frequent services and more routes:
    - Milan-Rome, Milan Paris,
    - Itabus connecting cities not directly attached to HSR infrastructure
  - ➢ better service quality
    - fleet of Italo-NTV increased from 25 AGV to 51 AGV and EVO trains and during periods of the pandemic there were more than 110 services per day (source)

Competition and its benefits for passengers

- In 2011, WESTbahn was the first to run trains with WiFi;
- As a result, ÖBB did the same by enhancing its service with WiFi and increasing train frequency of the Salzburg-Vienna route, benefiting all travellers;
- ÖBB acknowledged that the introduction of open access to the Austrian rail market has led to an increase in passenger growth

- Competition also means that not all operators are affected by strikes, as seen in Germany with European Sleeper, Flixtrain, and WESTbahn remaining unaffected

Competition and its benefits for passengers

„Where national and regional European governments have adopted a competitive tendering process, rather than direct awards to a state incumbent, increased efficiencies (between 20-50%), lower levels of subsidy and higher passenger numbers have been realised."
- Rail Partners' „Track to Growth" report

- December 2024: New service between Prague (Czechia) and Gdynia (Poland) (link)
- Competitive tender in Czechia - €**3.11**/train-kilometer paid by the taxpayer
- Direct award in Poland - €**9.18**/train-km (more than twice!)

- Tendered services & open access in Czechia between 2015-2018:
- Number of cancelled trains decreased from 1.8 per thousand to **1.0 per thousand**
- Punctuality increased by 5%

Thank you

If you have questions, then please contact:

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Secretary General

Alliance of Passenger Rail New Entrants in Europe

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+32 479 07 08 06

@ALLRAIL_EU

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13:00
14:30PM

LUNCH TIME

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MULTIMODAL DIGITAL MOBILITY SERVICES

14:30 PM
16:00 PM

21 JUNI 2024

ALBERTO MAZZOLA
CER

KUBA CZAJKOWSKI
Astarium

EMMANUEL MOUNIER
EU Travel Tech

DELPHINE GRANDSART
EPF

JAKOP DALUNDE
member of Resenaerna and former MEP

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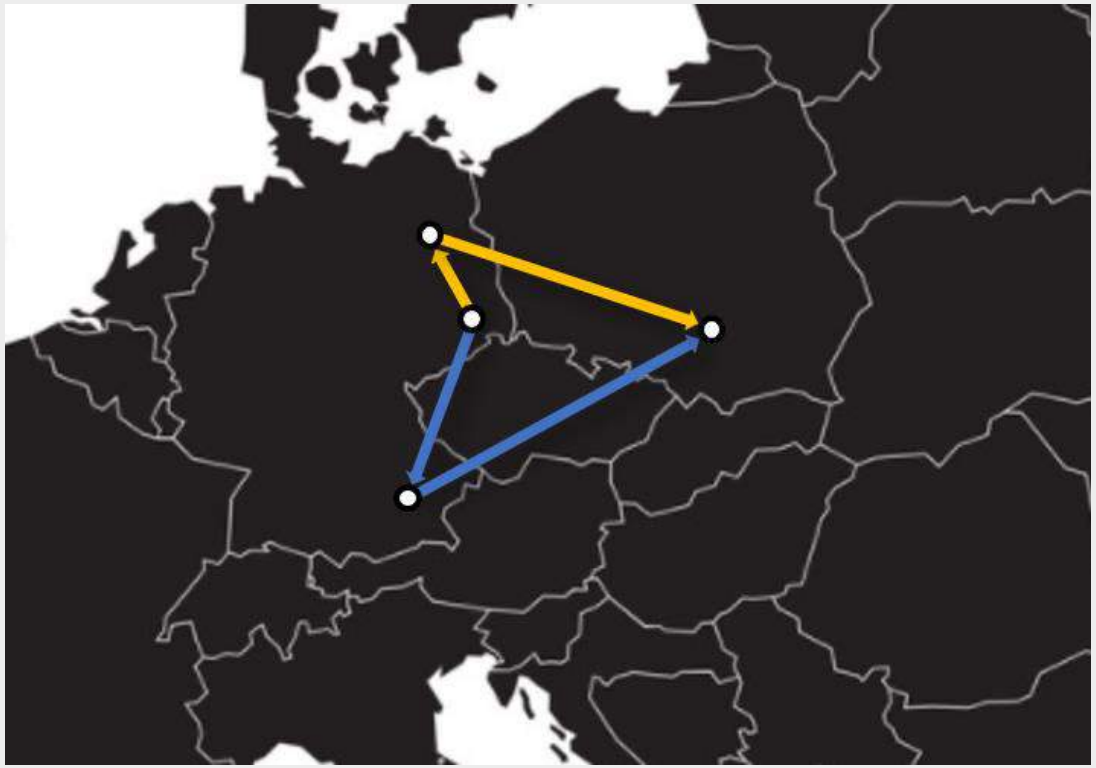
Eu travel tech

MDMS: a game changer for passengers

Multimodal ticketing: case study

Dresden - Krakow



Check moveyourway.eu for more examples!

Multimodal trip:
Dresden – Berlin (rail)
Berlin – Krakow (air)

Price: EUR 112.30
Duration: 5:16 h
Emissions: 65 kg CO2

- Invisible to travelers
- Not easily searchable, comparable, bookable, payable
- Uses strengths of different modes

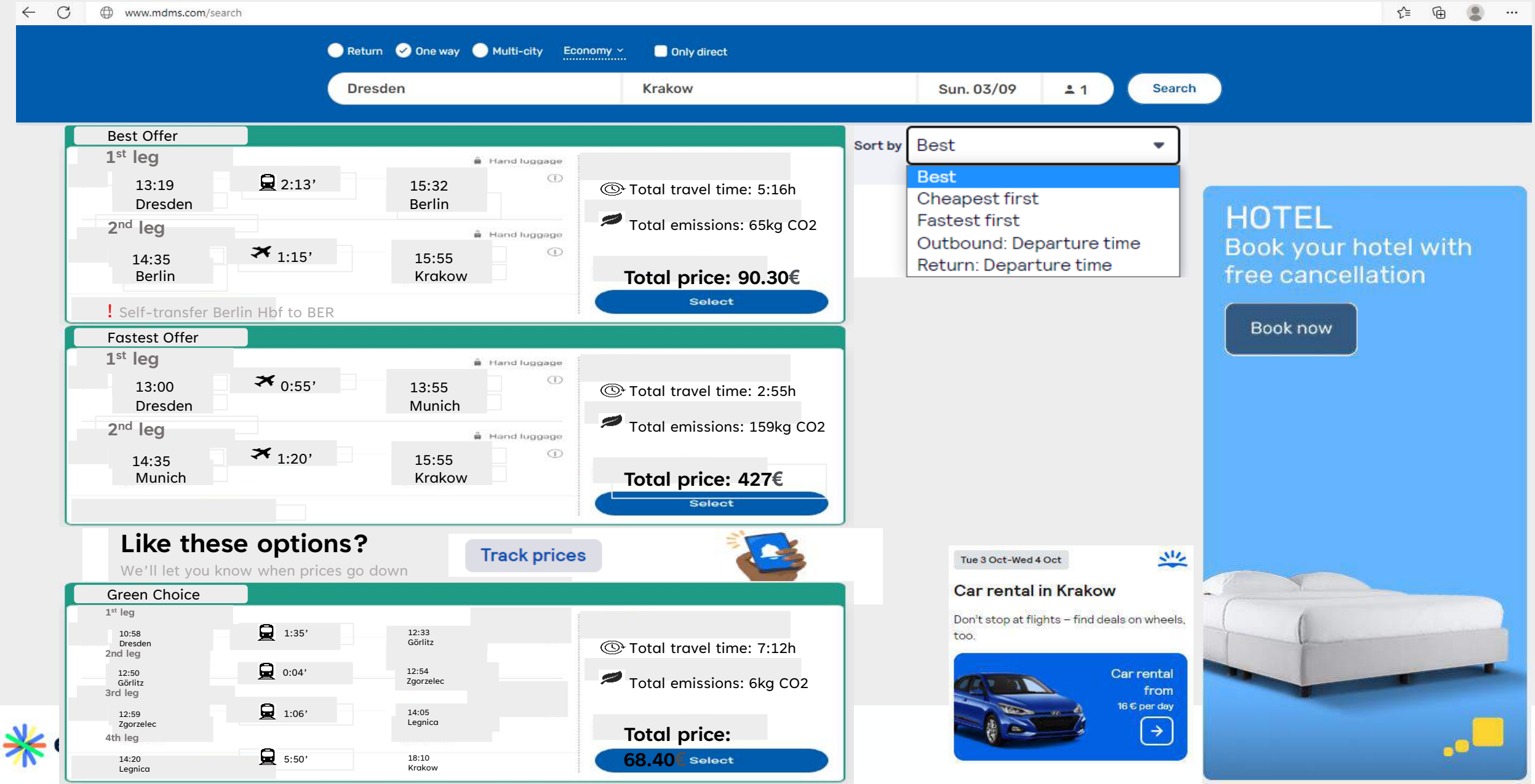
Single-mode trip:
Dresden - Munich (air)
Munich – Krakow (air)

Price: EUR 427
Duration: 2:55 h
Emissions: 159 kg CO2

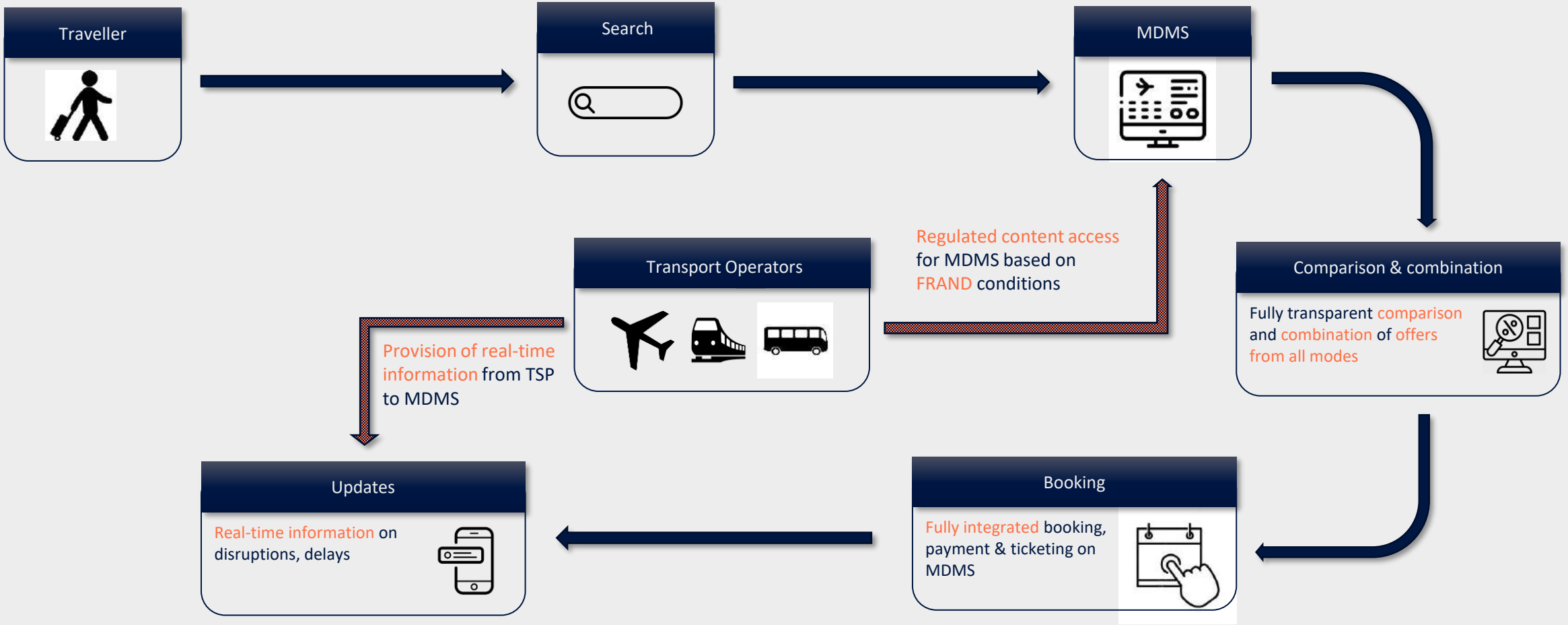
- Highly visible
- Easily searchable, bookable, payable
- Air remains default long-distance travel option for many travelers

Consumer Experience without MDMS

Consumer Experience with MDMS



Multimodality in Europe – The Vision



EPF Conference 2024 Warsaw

Alberto Mazzola, CER Executive Director

CER
The Voice of European Railways

OUR VISION FOR PASSENGER SERVICES

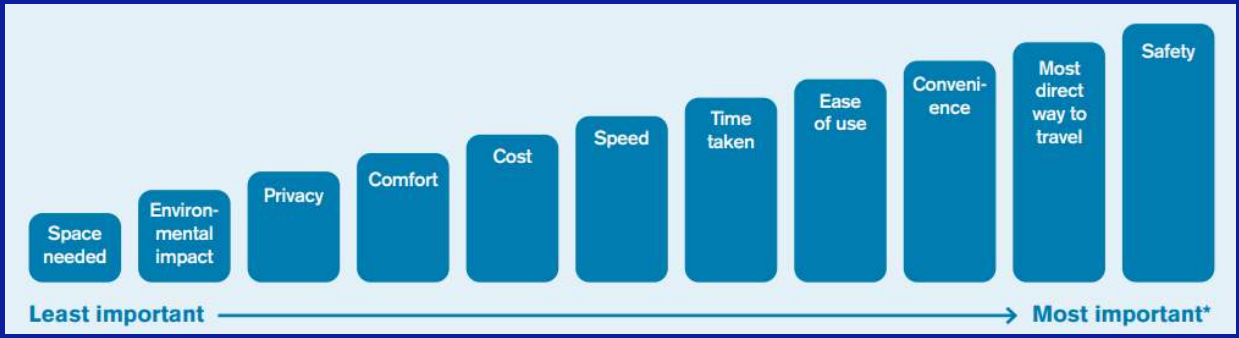
- connecting European capitals and major urban nodes through **high-speed rail services**
- ensuring the quality of **regional rail passenger traffic**
- deploying **OSDM specification** together with the **CER Ticketing Roadmap**
- improving **travel experience** also via **real-time information**
- boosting **sustainable tourism**
- supporting **night trains**
- fostering **intermodal connections** especially in urban hubs

ON TRACK FOR EUROPE

CER
The Voice of European Railways

Why people choose certain mobility solution

- CER Members still experience speed and price is the key
- Rail is competitive up to 1000km or 4-6 hours when it comes to air transport
- Commuter trains compete against cars
- Local, regional and long-distance rail competes for capacity between themselves



The journey towards sustainable travel; Transport focus research 2021

ON TRACK FOR EUROPE

CER
The Voice of European Railways

CER Ticketing Roadmap

- OSDM as the key enabler; rollout in Sweden. 7 CER members by end of 2024
- Agreement on Journey continuation (AJC): Geographical coverage (already more than 90% in EU). Next step is digitalisation (eTCD)
- Extending the booking horizon (Capacity Regulation)
- Real-time platform; UIC building a platform, beginning of 2025
- Harmonization of Ticketing Conditions; EU Disability Card a big step forward, OSDM solves it technically, efforts are continuing

ON TRACK FOR EUROPE

CER
The Voice of European Railways

THANK YOU

Discover our full manifesto at
www.cer.be/ontrackforeurope

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SIGN-AIR WORKSHOP

16:00
17:30

21 JUNI
2024

DELPHINE GRANDSART

Senior Researcher
EPF

SIGN-AIR

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EPF conference

21. June 2024

Warschau, Poland

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The SIGN-AIR project

Implemented Synergies. Data Sharing Contracts and Goals between transport modes aNd AIR transportation

ID: 101114845
Project duration: 01/06/2023 - 31/05/2026
EU contr.: 3.562.807,51€
16 partners from 7 countries

synair. → SIGN-AIR

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Partners' expertise

DAMA-UPC. DATA MANAGEMENT
UNIVERSITAT POLITÈCNICA DE CATALUNYA

AETHON ENGINEERING

aMtu

ATM Àrea de Barcelona
Autoritat del Transport Metropolità

Aeroporto di Bologna

CARNET
FUTURE MOBILITY RESEARCH HUB

ENAC
1ère école aéronautique européenne

European Passengers' Federation

Cybersecurity-Law

Hellenic Seaplanes
Connecting Greece

swiss aeropole
WHERE AVIATION INSPIRES CREATION

*Sparsity

SMART TICKETING Alliance

TIMELEX

Typer
Cambia il movimento

UNIVERSITY OF BELGRADE
FACULTY OF TRANSPORT AND TRAFFIC ENGINEERING

Problem statement

Joana wants to travel from Barcelona to Brussels and wants to have a door2door seamless journey

Ideal situation:

1. Single ticket at a reasonable price
2. Real time information
3. Low waiting time at interchanges
4. Reaccommodation in case of disruption
5. Have (almost) everything in one interface/application

Transport Service Providers (TSPs) need to collaborate / agree on:

1. Sharing data (schedules, traveler's ID, PRM assistance etc.)
2. Pricing scheme / Revenue sharing
3. Responsibility sharing
4. Provide adequate information through a Travel Companion app

This is the objective of SIGN-AIR: to allow TSPs to collaborate in a simple and efficient way so Joanna can have a 4h door2door seamless journey

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Identified barriers to multimodality – TSPs' perspective

1. Stimulate awareness of all stakeholders involved in passenger transport regarding significance of **data sharing** → revenue & responsibility sharing!
2. Multimodal collaboration among Transportation Service Providers (TSPs) is a **complex and time-consuming** process, can span several years until completion
3. Difficulty in **finding collaborators and establishing negotiations** → need to find suitable counterparts for collaboration, both TSPs must align towards a common objective
4. Complex **data sharing and systems integration**:
   - lack of data harmonization and standardization
   - data quality
   - data security and privacy
   - demands resources
5. Complex **cross-border negotiations** from a legal standpoint → standardization of the contracts

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SIGN-AIR solution

“**One-stop-shop** platform that streamlines multimodal collaboration”

Why? To achieve a **4-hour seamless multimodal door2door journey,** focused on improving passenger experience.

How? By developing a central point to manage **data sharing agreements & smart contracts** between Transport Service Providers (TSPs), focusing on **user-friendly design** that **facilitates** smooth **collaboration** and successful multimodal transport.

What? An advanced **interoperable web application**, with comprehensive **contract templating** and **communication tools**, based on SYN+AIR’s Smart Contract Framework concept.

Who? Transport Service Providers (TSPs) are empowered to **prepare** their data for **sharing**, **negotiate** and **monitor** their contracts.

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Project objectives

01 Develop the **SIGN-AIR web application/platform**

02 Enable SIGN-AIR platform's interoperability through a set of **APIs for connecting** with 3rd parties and specifically **travel companions apps**

03 Study and determine the current state of **data standards** harmonisation for public transport and air transport

04 Demonstrate the appropriateness of a standard **legal layer** that facilitates **data sharing and collaboration** among **Transport Service Providers** (TSPs)

05 Execute **demonstrations** of SIGN-AIR in various environments achieving TRL 7

06 Contribute to the shift of Air Traffic Management **from flight-centric to passenger-centric** and multimodality

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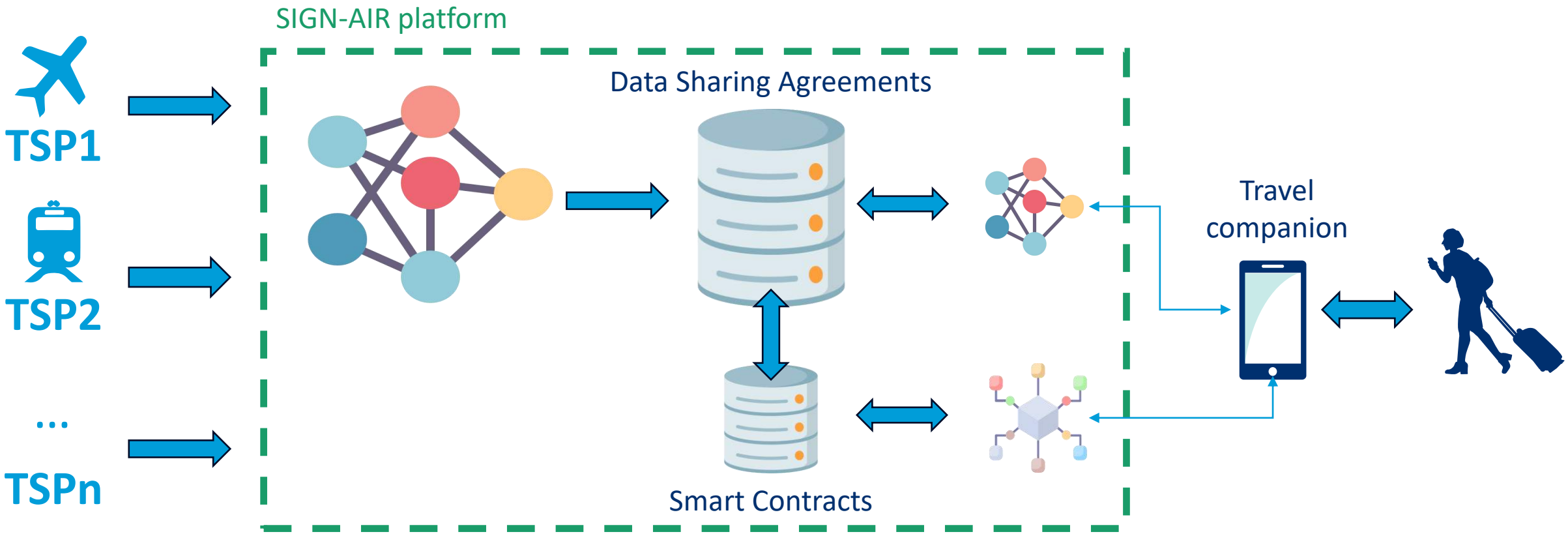
SIGN-AIR in a nutshell



SIGN-AIR solution modules

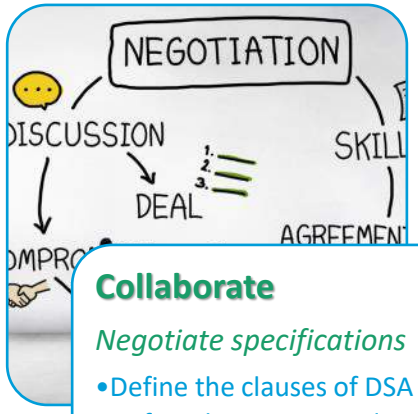
With a commitment to promote seamless collaborative partnerships, SIGN-AIR encapsulates an ecosystem characterized by three interwoven modules: **Plan, Collaborate, and Improve**. Each module contains a set of functionalities designed to guide stakeholders through the intricacies of multimodal collaboration.

Plan

Contract Preparation

- TSP's registration
- Discovery of potential collaborations
- Definition of main contract elements (Parties, Goal, Data)

Contract template



Collaborate

Negotiate specifications

- Define the clauses of DSA
- Define the Actions and Triggers
- Test the SC
- Signature

Signed Contract

Improve

Post Settlement & monitoring

- Connection with TCs
- Definition of added value services
- Modification
- Termination

Data sharing benefits

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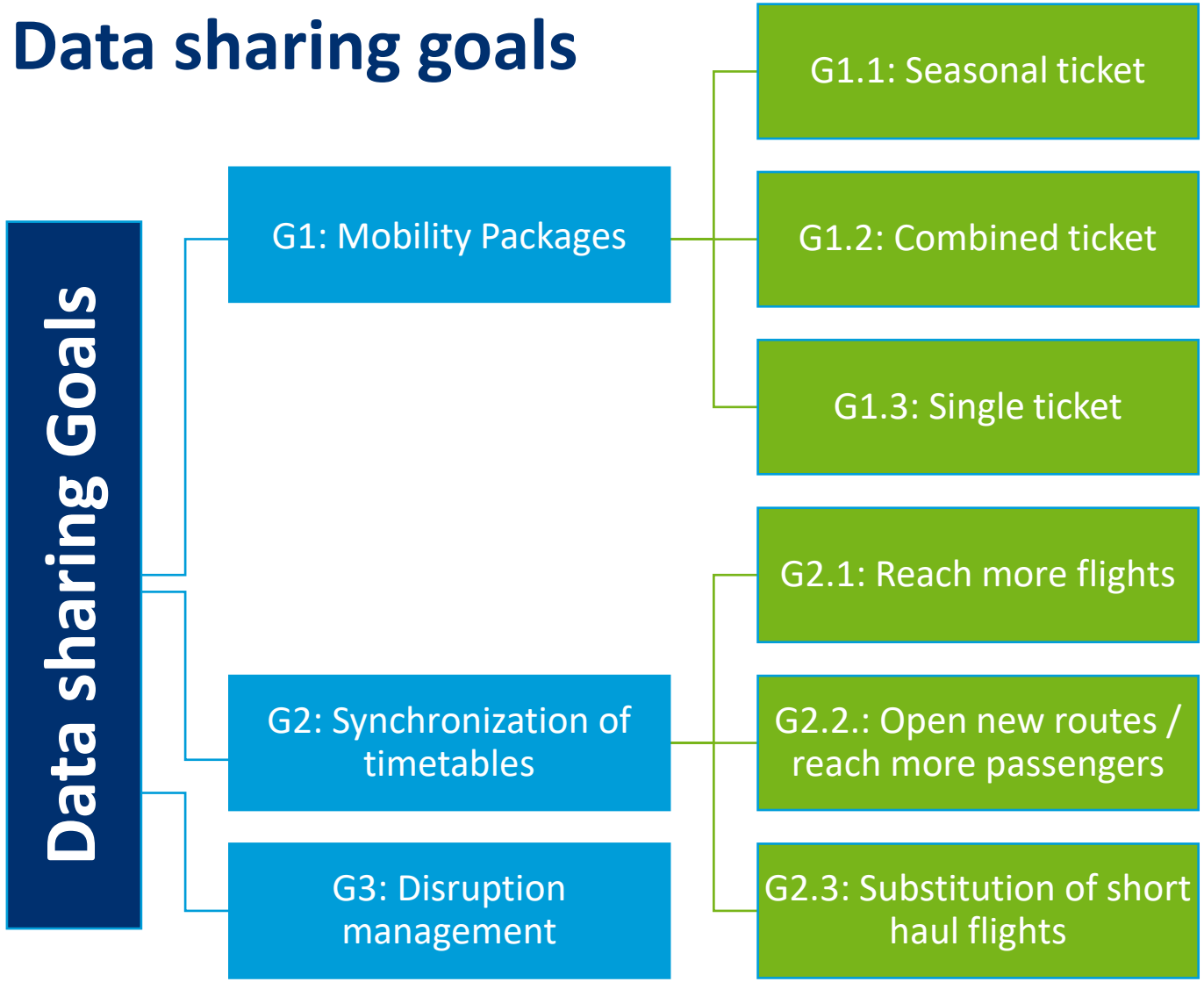
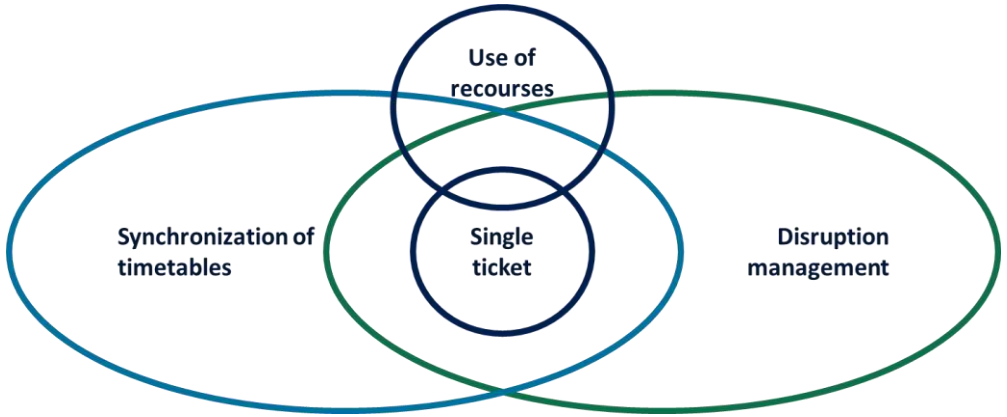
Data sharing goals



Stakeholders	Airport	Airline
Railway infrastructure manager	G3	
High-speed railway operator	G1.1, G3	G1.2, G1.3, G2, G3
Regional railway operator	G1.1, G3	G1.1, G1.2, G3



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SIGN-AIR

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Workshop part I
Connectivity

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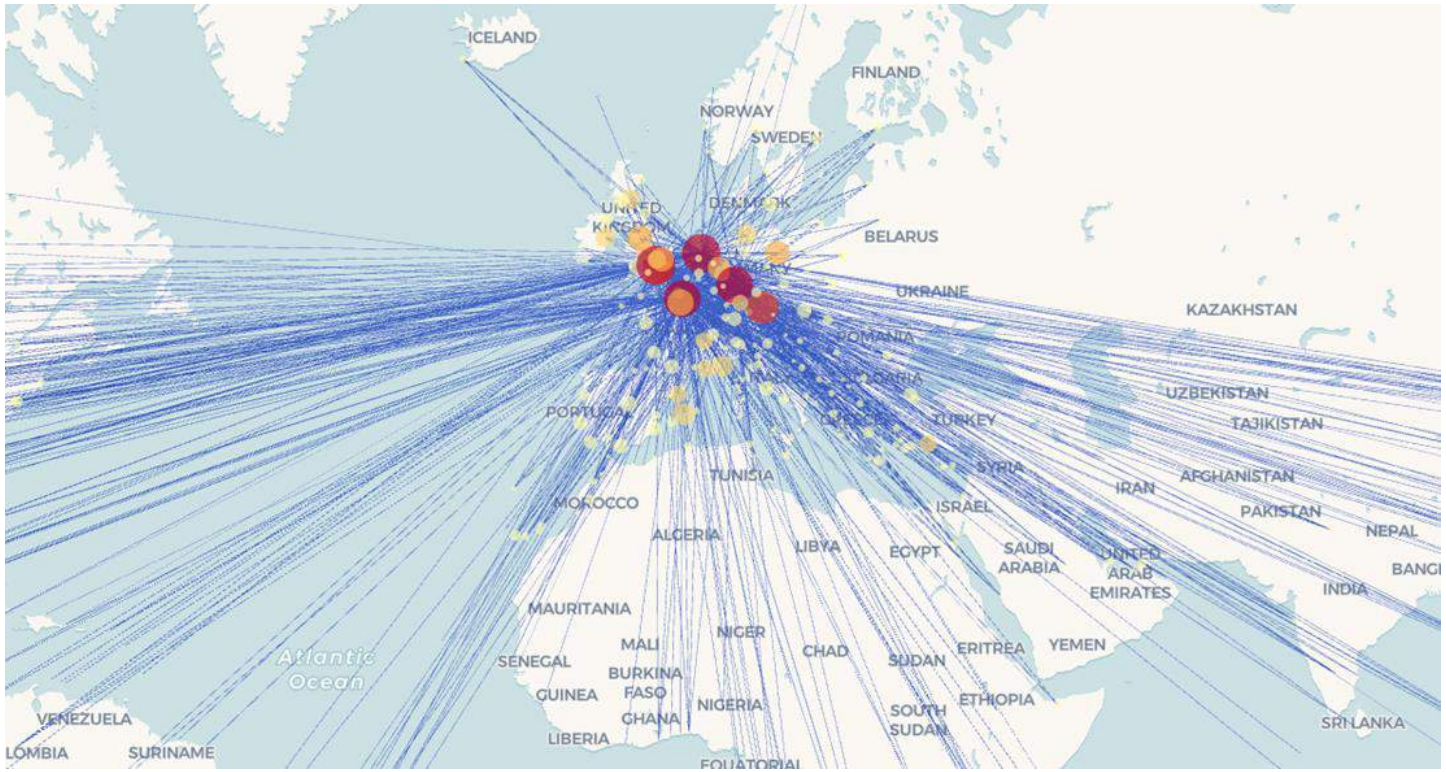
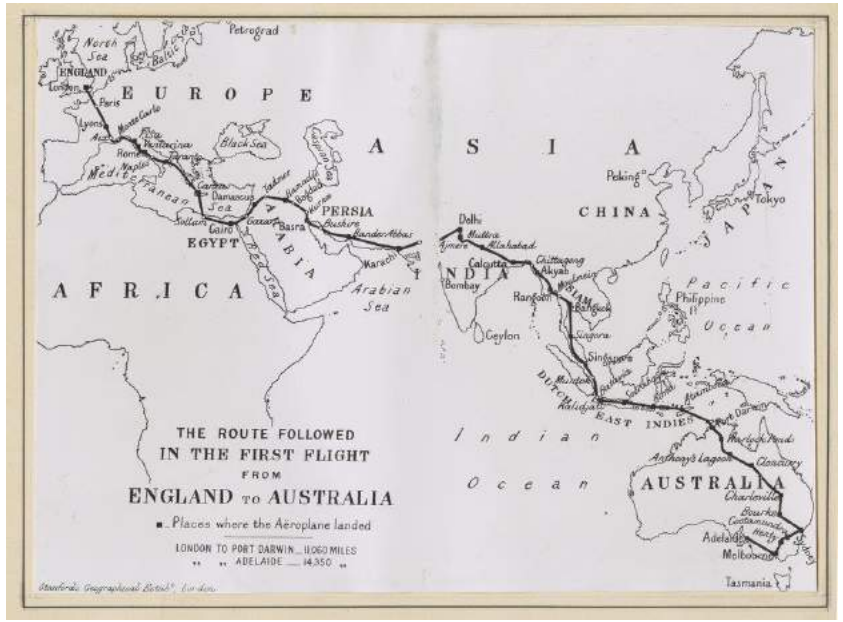
What is connectivity?

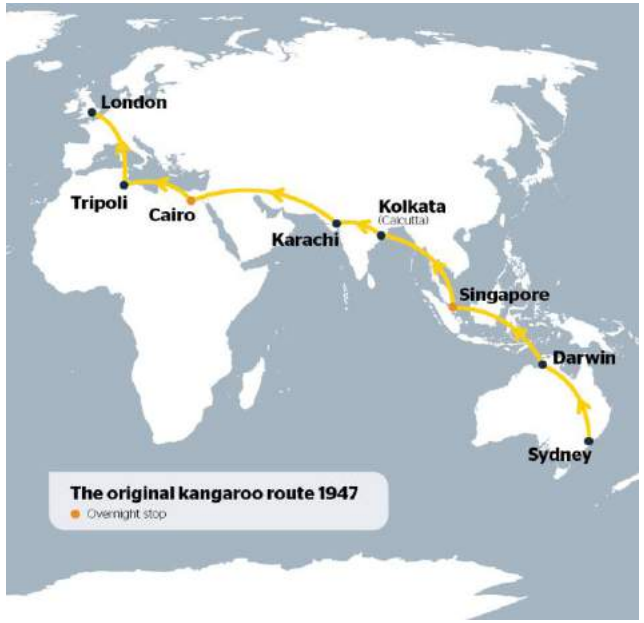
Connectivity = Degree to which nodes – transport hubs are connected with each other
→ Ease of accessing various locations around the world



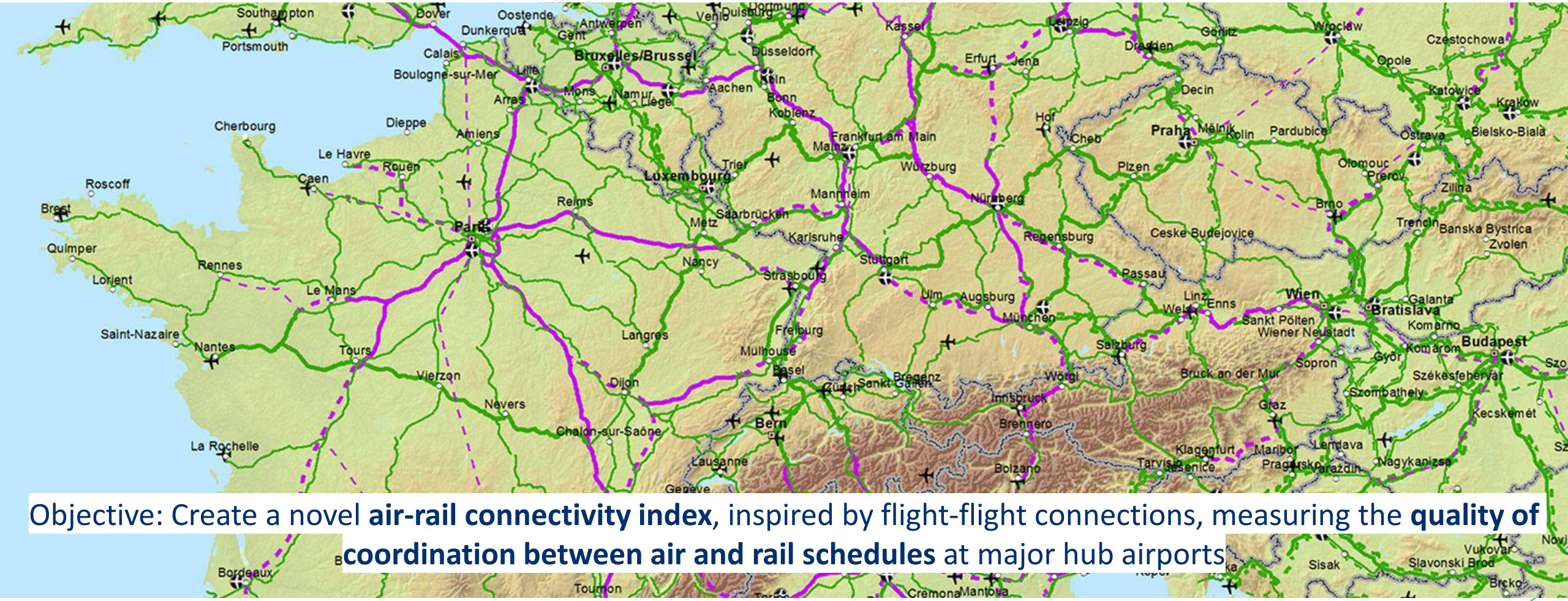
Why connectivity matters

"90% of travellers within Europe are able to complete their journey, door to door, within 4 hours. Passengers and freight are able to transfer seamlessly between transport modes to reach the final destination smoothly, predictably and on time"
Flightpath 2050 (2011)





Air-rail connectivity



Objective: Create a novel **air-rail connectivity index**, inspired by flight-flight connections, measuring the **quality of coordination between air and rail schedules** at major hub airports

https://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/site/maps_upload/tent_modes/EU_A0Landscape2019_passengers.png

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Discussion

- Air-rail connectivity index: a good idea?
- Is the EU target for 90% of trips in 4 hours door-to-door still relevant?
- Could connectivity between air and railway play a role?
- What could be the impact on passenger experience?
- Why would passengers (not) choose an air-rail connection?

A – Rank the following **5 factors from most to least important**:

1) Transfer time
2) Minimum transfer time
3) Total travel time from A to B
4) Flight duration
5) High speed railway frequency

B – What **other factors** would you consider to measure air-rail connectivity?

C – What **parameters** will affect your travel mode choice (air-air vs. rail-air)? (e.g., price, robustness, guarantee in case of delay, sustainability, etc.)

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Workshop part II

Impact on passenger experience

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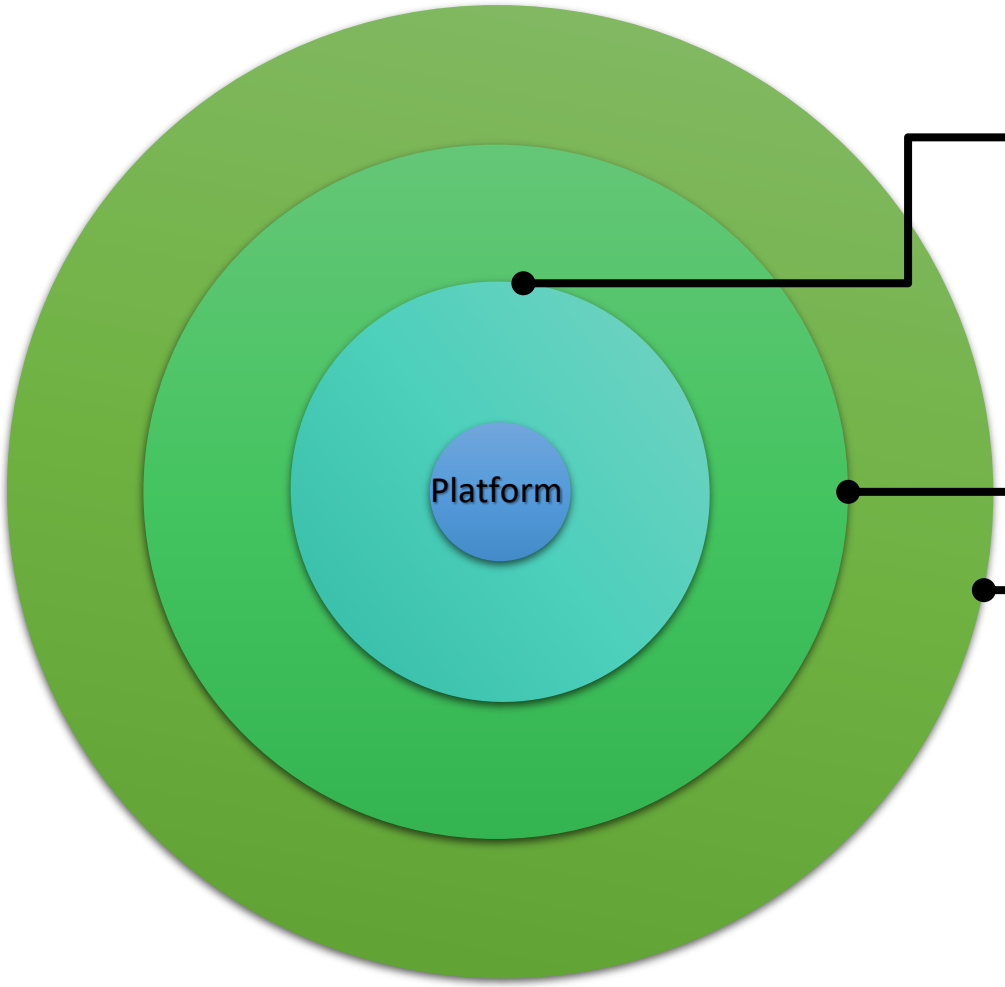
Stakeholders



CORE STAKEHOLDERS

sign the contracts either as data provider or as data consumers

(e.g., TSPs, Infrastructure managers, Traffic Controllers, Transport Carriers)

DIRECTLY INVOLVED

provide or consume data

(e.g., Travel Companion companies, MaaS providers, Data Spaces, Alliances & networks, Infrastructure managers, Intelligent Transportation systems)

INDIRECTLY INVOLVED

are affected by the results of the DSAs and/or the SCs

(e.g., travellers & policymakers)

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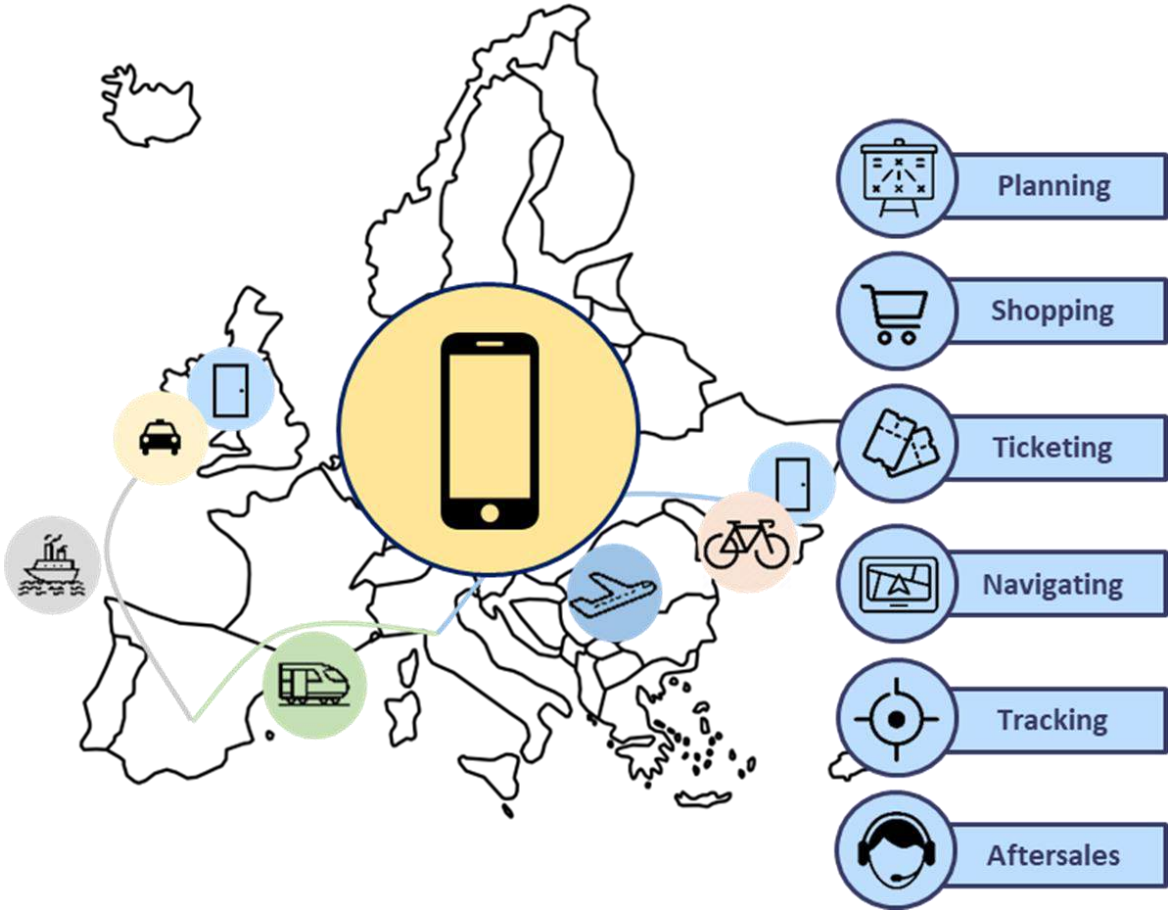
Passenger needs along the user journey



CIPTEC, Peek & Van Hagen, EPF

S2R – IP4

Multimodal transport and passenger experience

TRANSIT
Travel Information Management for Seamless Intermodal Transport

Safety | Capacity | Resilience | Efficiency

Environment | Cost effectiveness | Punctuality and reliability | Security

Accessibility and equity | Flexibility | Interoperability

https://www.transit-h2020.eu/

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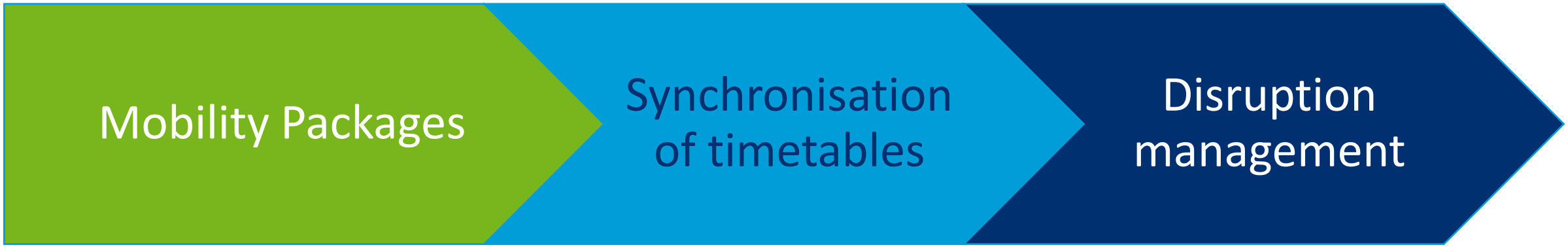
Discussion

- How may SIGN-AIR solutions impact passenger experience?
  - Pyramid of needs – which needs addressed?
  - Stages of travelling – which stages affected?
  - Nominal vs. non-nominal situation (disruption)
- How to monitor / measure passenger experience in multimodal transport (ideas for KPIs)?
- Which ‘Key Performance Areas’ (as defined in TRANSIT) are impacted most (top 3)?



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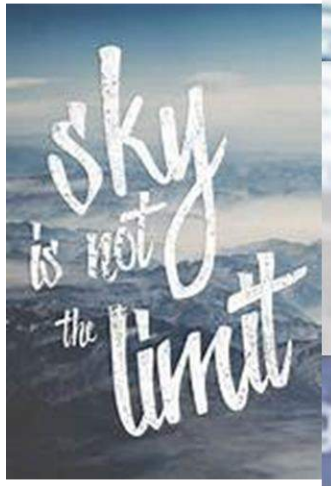
Thank you!



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Ismini Stroumpou, SIGN-AIR coordinator: ismini@sparsity-technologies.com

Website https://www.sign-air.eu/
LinkedIn https://www.linkedin.com/company/sign-air/

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We need your feedback on how AJC is explained on RU's websites

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Wrap Up

1. Re-use your name tags tomorrow – please give them back tomorrow EOC
2. Dinner tonight at 19h at Powdale 25 Komania Piwna
   - (scan QR code for directions)
3. Did you register for tomorrow's dinner yet?
   - Jaś & Małgosia café club

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SEE YOU TOMORROW

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